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HISTORY OF ENDEMIC HAWAIIAN BIRDS
SPECIMENS IN MUSEUM COLLECTIONS
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ABSTRACT

Delineation of historic ranges of depopulated endemic Hawaiian birds required information inscribed on labels of museum specimens. More than 40 institutions were solicited by mail from 1966 to 1976 for original collection data of 69 taxa. Data transcribed from 3820 specimens of extinct or endangered forms, and 1803 specimens of non-threatened species was reconstituted for purposes of documentation. Specimen accounts include currently recognized scientific, vernacular, and Hawaiian names of each species and subspecies; information on original descriptions; total number of examples extant and labels abstracted; date, locality, and name of collector; disposition of 7261 specimens (including 1638 of non-threatened taxa having unabstracted data) in each of 37 museums world-wide. Hawaiian place-names and elevations of principal collecting localities are listed and shown on maps of the six major forested Hawaiian Islands.

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INTRODUCTION

Collection of specimens is fundamental to serious investigation in the natural sciences. When properly labeled and preserved, specimens offer the only physical evidence that a species occurred at a given time and place. Scientific inquiry into the historical status and distribution of the endemic Hawaiian avifauna therefore required that detailed information usually found on specimen labels be examined. While early-day naturalists did not always inscribe locality names on labels of specimens they collected, the aggregate information obtainable from their collections is nevertheless an important part of the historical record and must be considered in drawing definitive conclusions.

It should be recognized at the outset that collection data presented herein are necessarily qualified. All sorts of deficiencies come to light under critical examination of specimen labels en masse. Most frequently, collectors either failed to inscribe complete date or locality of collection. Interpretation of differences in recording sequences of day-month-year which existed between European and American ornithologists also may have confounded the facts in a few cases. Hawaiian place-names were sometimes found to be misspelled, illegible, archaic, or unknown. In addition, some labels have been confusingly annotated, apparently by persons other than the collector. To all such sources of possible error or misinterpretation must be added the diverse efficiencies of curators and aides who performed the tedious task of reading and copying information on hundreds of labels accurately and consistently. Possible error or misinterpretation of transcribed data by the present investigator must also be considered.

Specimen label data were obtained in several stages. The initial transcriptions were accomplished by the author in 1965 and 1966 directly from labels of the substantial collection of rare and extinct Hawaiian birds in the Bernice Pauahi Bishop Museum, Honolulu. Curators of some 25 other museum repositories known or suspected to contain Hawaiian bird specimens were asked to provide similar information during the period 1967 to 1970. A third survey of an expanded list of museums was conducted from 1975 to 1976. Relevant specimen label information from the less rare endemic Hawaiian birds was requested during the third survey. In the last instance, however, some museums were not able to cope with the volume of work required because of lack of qualified help. This deficiency becomes apparent later in the data compiled for certain of the more common species.

Hawaiian place names offered a particular challenge to proper interpretation. The author exercised the liberty of correcting apparent error in Hawaiian language spelling, including updating through use of glottal stops and macrons as given in Place Names of Hawaii (Pukui, Elbert, and Mookini 1974). For

localities not listed by Pukui, Elbert, and Mookini, anglicized spelling of Hawaiian place names found in A Gazetteer of the Territory of Hawaii (Coulter 1935) was used. It was also sometimes necessary to interpret specimen label information subjectively; however, such license was seldom exercised.

Published data from Eck (1968, 1970) and Walkley (1974, 1975, 1976) were incorporated; however, no special effort was made to track down and include information from very old specimens of Hawaiian birds in the obscure repositories mentioned by Stresemann (1950) and Burton (1969). Neither was an attempt made to reconcile information received from museum curators with that contained in special listings published by some museums (e.g., E. H. Stickney's 1 Jan. 1977 listing Avian Anatomical Specimens in the Peabody Museum of Natural History). For these and other reasons the following accounts of specimens represent a practical survey rather than a complete inventory. Numbers of specimens credited to many museums may, however, represent the actual number on hand in many cases.

Precautions should also be taken in translating data summarized from specimen labels into literal comparisons. Species sought, effort expended, difficulties in shooting and retrieving specimens, and many other factors were known to vary widely between collectors, habitats visited, historical periods, etc. Information derived from specimen labels is important in establishing the former relative abundance and distribution of species only in the light of variable assumptions which must be made.

The current surveys revealed a total of 7261 specimens of endemic Hawaiian birds in museums worldwide. Included in this report are data abstracted from labels of 3820 specimens of extinct or endangered forms, and 1803 specimens of birds not yet recognized as threatened. The repositories of an additional 1638 specimens on non-threatened species are given, though label information was, for various reasons, not abstracted. No specimens of Phaeornis obscurus oahuensis or Hemignathus obscurus ellisianus were found in the museums surveyed.

The descriptions of new Hawaiian birds occurred at irregular intervals during the historic era, as explained earlier in the Introduction to the overall work. The numbers of new species and subspecies described by the various taxonomists during the principal periods are as follows: 1778-1841 (15)--Gmelin (9), Bloxam (2), Merrem (1), Forster (1), Vigors (1), Lichtenstein (1); 1842-1886 (14)--Peale (4), Cabanis (2), Ridgway (1), Sclater (1), Streets (1), Gray (1), Dole (1), Gustalet (1), Gould (1), Cassin (1); 1887-1904 (36)--Rothschild (15), Wilson (11), Stejneger (4), Wilson and Evans (1), Ridgway (1), Frohawk (1), Cabanis (1), Newton (1), Henshaw (1); 1905-1936 (3)--Bryan (2), Wetmore (1); 1937-1978 (1)--Casey and Jacobi (1).

Some 2010 of the 3820 known specimens of extinct or endangered Hawaiian birds were collected from 1887 to 1902 by only four men. S. B. Wilson took 185 specimens in 1887 and 1888, later describing 12 species or subspecies (one with A. H. Evans)

new to science from this collection. H. C. Palmer obtained 744 specimens from December 1890 to August 1893, enabling his employer, L. W. Rothschild, to describe 15 new forms. R. C. L. Perkins collected most of his 484 specimens between 1892 and 1896, but generously left the description of the only new form he secured (Drepanis funerea) to his mentor, A. Newton. H. W. Henshaw secured 597 specimens between 1894 and 1904, describing one new species. Although only two new species were described in the aggregate 1081 specimens obtained by Perkins and Henshaw, the value of their work should not be underestimated. The collection of specimens serves many scientific purposes other than the description of new species.

Place names of the localities on the principal islands visited by Wilson, Palmer, Perkins, and Henshaw are listed and shown in Appendix I. Full names of all bird collectors known to the author are given in Appendix II.

PRINCIPAL REPOSITORIES

The scattering and loss of specimens taken during Captain James Cook's voyage has already been treated in detail by Stresemann (1950) and Burton (1969), and will not be elaborated upon further here. A. Bloxam's collection of Hawaiian birds in 1825 was deposited in the British Museum. F. Deppe and J. K. Townsend companioned and collected Hawaiian birds together on O'ahu in 1837. Most, if not all of Deppe's specimens were found in the Naturhistorisches Museum, Vienna, while the majority of Townsend's collection, including some he obtained on Kaua'i, were located in the Academy of Natural Sciences, Philadelphia.

Hawaiian birds taken during voyages of the French vessels Bonite (1836-1837) and Venus (1836-1839) are in the Museum National D'Histoire Naturelle, Paris, as are also most of those taken by T. Ballieu in the mid-1870's.

Members of the U. S. Exploring Expedition collected birds during their visit to the Hawaiian Islands in 1840 to 1841, but most of their specimens were unfortunately lost in the subsequent wreck of the U. S. Ship Peacock. Surviving specimens are located in the Academy of Natural Science, Philadelphia, and the National Museum of Natural History, Washington, D. C.

Most of the specimens collected by S. B. Wilson are in the Museum of Zoology, Cambridge University. H. C. Palmer's collection passed initially to L. W. Rothschild's museum at Tring, England, and since by sale to The American Museum of Natural History, New York. The bulk of R. C. L. Perkins' collection is deposited in the British Museum (Natural History). H. W. Henshaw's collection is on deposit principally in the Bernice Pauahi Bishop Museum, Honolulu, with most of the balance in the National Museum of Natural History, Washington, D. C.

Specimens of Hawaiian birds taken by Wilson, Palmer, Perkins, or Henshaw sometimes form substantial portions of representative collections at other major museums, principally: Museum of Comparative Zoology at Harvard University, Cambridge; Los Angeles County Museum, Los Angeles; Royal Ontario Museum, Ottawa; University of California, Los Angeles; Peabody Museum at Yale University, New Haven.

While museum curators were not queried about type specimens in collections, volunteered information was carefully preserved in the species accounts which follow.

Abbreviations of names of museums with Hawaiian birds in their collections are shown in Table 1.

Order of treatment and scientific nomenclature in the following species accounts agrees generally with that of Amadon (1950) for the Drepanididae, and with Berger (1972) for the remaining forms. Pyle (1977) is generally followed for common English and Hawaiian names. Exceptions have been detailed earlier, in the Introduction to the overall work.

TABLE 1. Museum repositories of endemic Hawaiian bird specimens.

<u>Abbr.</u>	<u>Museum</u>	<u>City</u>
AM	Australian Museum	Sydney
AMNH	American Museum of Natural History	New York
AIM	Auckland Institute and Museum	Auckland
ANSP	Academy of Natural Science	Philadelphia
BPBM	Bernice Pauahi Bishop Museum	Honolulu
BMNH	British Museum (Natural History)	London
CAS	California Academy of Sciences	San Francisco
CM	Carnegie Museum	Pittsburg
CAM	Canterbury Museum	Christchurch
CU	Cornell University	Ithaca
CMZ	Cambridge University Museum of Zoology	Cambridge
DMNH	Denver Museum of Natural History	Denver
FMNH	Field Museum of Natural History	Chicago
HVNP	Hawaii Volcanoes National Park	Hawaii
ISZZ	Institute Für Spezielle Zoologie und Zoologisches	Berlin
LACM	Los Angeles County Museum of Natural History	Los Angeles
LSUM	Louisiana State University Museum	Baton Rouge
MCZ	Museum of Comparative Zoolgy, Harvard University	Cambridge
MH	Museum Heineanum	Halberstadt
MNHN	Museum National D'Histoire Naturelle	Paris
NMNZ	National Museum of New Zealand	Wellington
NHM	Natural History Museum	San Diego

TABLE 1.--Continued.

<u>Abbr.</u>	<u>Museum</u>	<u>City</u>
NM	Naturhistorisches Museum	Vienna
NMNH	National Museum of Natural History	Washington, D. C.
ROM	Royal Ontario Museum	Ottawa
RMNH	Rijksmuseum Van Natuurlijke Historie	Leiden
SM	Senckenberg Museum	Frankfurt
SMFT	Staatliches Museum Für Tierkunde	Dresden
UCB	University of California	Berkeley
UCLA	University of California	Los Angeles
UK	University of Kansas	Lawrence
UM	University of Minnesota	Minneapolis
UMAA	University of Michigan	Ann Arbor
WSM	Washington State Museum, University of Washington	Seattle
WSU	Washington State University	Pullman
YPM	Yale University Peabody Museum	New Haven
ZFMK	Zoologisches Forchungsinstiut u. Museum A. Koenig	Bonn

Family: PROCELLARIIDAE

Puffinus puffinus newelli

Vernacular Name: Newell Shearwater
(a subspecies of Manx Shearwater)

Hawaiian Name: 'A'o

Specimens In Museums: 47
Specimen Labels Abstracted: 47

The initial specimen of 'A'o was taken in the Western Pacific by A. Marche on Saipan, Mariannas Archipelago, in 1887 (Jouanin 1956). The species was originally described by Henshaw (1900) from one of several birds collected from burrows by natives in Waihe'e Valley, Maui. One 'A'o from this collection was presented to St. Louis College (now Chaminade College, Honolulu) but was lost later. No other specimens from Maui are known.

Twenty-two specimens of 'A'o have been collected on Kaua'i. F. Gay obtained two specimens, probably before 1900. Most of the remaining 20 specimens were 'A'o which in recent years have crash-landed near the shore at night. G. C. Munro obtained a specimen at Kōloa on 8 October 1956 and F. Richardson secured another on the beach at Kapa'a on 24 June 1960. Two other specimens were picked up by unspecified collectors, including one from Wailua bridge on 31 July 1960, and one from near Kīlauea (point) 5 November 1956. G. E. Swedberg salvaged 12 specimens from birds which crashed at Hanalei, Hanapēpē, Līhu'e, Kīlauea (point), Wailua, and unspecified localities during July, September, and October 1974. Four other specimens were obtained by unspecified collectors during 4 to 6 May 1965, including three at Kīlauea (point).

There are two 'A'o specimens known from O'ahu, one taken on 22 May 1954 at 'Aiea and the other salvaged on Kapiolani Boulevard, Honolulu, on an undesignated date.

'A'o travel far to the south and west of the Hawaiian Islands, as demonstrated by the specimen obtained in 1887 on Saipan, Mariannas Archipelago. Two other specimens were obtained at distant locations, one on 15 June 1966 at Kuku Point, Wilkes Island, Wake Atoll; and another on 21 August 1963 on Sand Island, Johnston Atoll. In addition, 17 specimens were collected at sea from 1963 to 1966 by scientists involved in Smithsonian Institution's Pacific Ocean Biological Survey Program.

Forty-seven specimens of 'A'o were found to be distributed in museum collections as follows: AMNH (1); AIM (1); BPBM (4); MNHN (1); NMNH (36, incl. 3 alcoholic); NMNZ (1); WSM (1); YPM (2).

Specimens In Museums: 72
Specimen Labels Abstracted: 72

Seventy-two specimens of 'Ua'u including five incomplete skeletons and remnants of wings from five birds were found to be distributed in museum collections as follows: AMNH (8); BPBM (19 + 5 wing remnants); BMNH (3); HVNP (2); LACM (20 + 5 incompl. skels.); MNHN (1); NMNH (1 + type + 2 trunk skels. + 1 skel.); RMNH (1); WSM (1); YPM (2).

Family: ANATIDAE

Branta sandvicensis

Vernacular Name: Hawaiian Goose
 Hawaiian Name: Nēnē

Specimens In Museums: 90
 Specimen Labels Abstracted: 90

A Nēnē collected during the exploratory visit of the French ship Bonite to Hawai'i in 1836 to 1837 appears to be the oldest specimen extant. Later, Cole (1833) and Sclater (1880) credited Vigors as the first to give the Hawaiian Goose a scientific name --the description being based on Vigors' observation of a captive pair kept in the gardens of the Zoological Society of London. Peale (1848) described the Nēnē as a new species from a specimen collected by the U. S. Exploring Expedition, remarking "we have not been able to find it named by ornithologists."

In addition to Peale's type there are 44 other specimens taken from before 1850 to 1887 by mostly unrecorded collectors in undesignated locations. Most of these represent captive Nēnē that had been bred in Europe since about 1834.

H. C. Palmer secured eight specimens of Nēnē on 12, 16, and 18 December 1891 presumably on or near the slopes of Hualālai where he recorded his presence 2 December. These eight skins represent the largest series of Nēnē specimens taken specifically for systematic scientific study.

Thirteen Nēnē specimens of miscellaneous nature have been preserved from the period 1897 to 1905, including one from the Territory of Hawaii Game Farm at Mōkapu, O'ahu; three eggs from an undesignated locality; and a Nēnē x domestic Chinese goose hybrid raised at Nā'ālehu, Hawai'i, in 1905.

Twenty-two Nēnē specimens collected from 1929 to 1975 represent mostly captive stock which died in zoos and breeding collections. Information on collector, date, and locality of specimens collected in the wild during this period are incomplete on one or more points.

Ninety specimens of Nēnē were found to be distributed in museum collections as follows: AMNH (11, incl. 1 mtd.); AIM (1); BPBM (6, incl. 1 juv. + 1 Nēnē x Chinese goose hybrid); CAS (2); CMZ (3); ISZZ (2); LACM (5; 2 mtd. yng. + 3 eggs); MCZ (3); MH (1); MNHN (1); NM (2); NMNH (11, incl. Peale's type + 2 chicks + 2 comp., 1 trunk and 1 incomp. skel. + 3 eggs); ROM (1); RMNH (26); SMFT (3, incl. 1 egg); UCB (6, incl. 1 body and skel.); UMAA (2); YPM (1); ZFMK (3, incl. 1 mtd.).

Anas laysanensis

Vernacular Name: Laysan Duck

Hawaiian Name: (None)

Specimens In Museums: 66

Specimen Labels Abstracted: 66

Rothschild (1892a) described Anas laysanensis from one of nine specimens collected in June 1891 by H. C. Palmer on its endemic island home, Laysan. H. H. Schauinsland obtained a series of 10 specimens from July to September 1896. Others who collected five or more specimens are W. A. Bryan (11) in April 1903; M. Schlemmer (5) in May 1907; A. Wetmore (7) in May 1923; and A. S. Leopold (5) in September 1961. No specimens have apparently been taken from October through March.

Sixty-six specimens of Laysan duck were found to be distributed in museum collections as follows: AMNH (19, incl. type + 2 co-types); BPBM (12, incl. 1 co-type); BMNH (3); CM (1); DMNH (2); LACM (6); MCZ (5); NMNH (13, incl. 2 comp. and 2 trunk skels.); UCB (5).

Anas wyvilliana

Vernacular Name: Hawaiian Duck

Hawaiian Name: Koloa

Specimens in Museums: 69

Specimen Labels Abstracted: 69

The earliest specimens of record were two taken by Behn on O'ahu on 22 October 1846 on the occasion of the visit of the Danish corvette Galathea to the Hawaiian Islands. The species was first described by Sclater (1878) from one of two specimens taken by an undesignated member of the Challenger Expedition which visited the Hilo area from 14 to 19 August 1875.

H. C. Palmer secured the largest number of Koloa specimens of any collector, taking six on Kaua'i during 28 January to 13 March 1891; four on Hawai'i during 29 October to 12 November 1891; five on O'ahu in April, May, and June 1893; and 10 on Ni'ihau on 27 July 1893. Almost all of Palmer's specimens were secured in unspecified localities.

Three specimens, one from Hawai'i and two from O'ahu, bear S. B. Wilson's name and date of 1888. Locality names of Helemano and Ko'olau, or corruptions thereof, are given for the O'ahu specimens. A Koloa from 3000 feet elevation on Mauna Loa, Hawai'i, taken in July 1892 is tagged with Wilson's name but was probably collected by Perkins (1913) who was then on Hawai'i. Wilson (Wilson and Evans 1899) was in England describing Hawaiian birds in 1892.

V. Knudsen collected six specimens of Koloa on Kaua'i at unspecified localities and dates, probably all before 1900.

Most of the remaining 30 specimens were taken from 1891 to 1946 on O'ahu and Kaua'i at unspecified localities by H. W. Henshaw; A. F. Judd; R. C. L. Perkins; A. Seale; C. H. Townsend; H. M. Whitney; and G. B. and S. Wilder.

Sixty-nine specimens of Koloa were found to be distributed in museum collections as follows: AMNH (24); BPBM (6, incl. 2 downy yng.); BMNH (3, incl. imm. from Challenger Exped.); CMZ (12); CM (1); FMNH (2); ISZZ (4); LACM (1, mtd.); MCZ (2); MNHN (1); NMNH (11, incl. 1 comp. + 2 trunk skels.); ROM (1); SMFT (1).

Family: ACCIPITRIDAE

Buteo solitarius

Vernacular Name: Hawaiian Hawk

Hawaiian Name: 'Io

Specimens In Museums: 99

Specimen Labels Abstracted: 99

Peale (1848) described the 'Io from a specimen taken near Kealakekua Bay, Hawai'i. The type specimen (Ridgway 1888) is presumably still in the collection of the Philadelphia Academy of Sciences.

Confusion arose over an early specimen of Buteo solitarius taken in California, described by Ridgway (1875) as Onychotes gruberi. Henshaw (1901) provided a plausible explanation for occurrence of 'Io in California by citing testimony from a sailing ship's captain that his bark was boarded by a hawk resembling an 'Io some 200 miles outward bound from Hilo in May or June 1897. According to the captain, this hawk remained aboard, except for short feeding forays after small birds near the ship, until it departed for land after the coast of California came into view.

S. B. Wilson obtained a series of 10 'Io specimens in 1887 and 1888 at various localities, including Keauhou (Kona), Waimea, Pu'u Iki (Waipi'o ?), and Hāmākua.

H. C. Palmer collected 14 specimens of 'Io at undesignated localities in October, November, and December 1891, and January and June 1892.

H. W. Henshaw collected 49 'Io specimens from 1898 to 1900 in every month of the year except July. Henshaw's specimens were taken in 'Ōla'a (14); Kaumana (6); Kaiwiki (9); Hāmākua (6); Kuaia (near Laupāhoehoe) (2); Honomū (4); Keaukaha (1); Volcano (1); Kea'au (1); Hilo District (1); and undesignated localities (4).

R. C. L. Perkins secured five specimens of 'Io in 1892 and 1896, one at 2000 feet elevation above Hilo and four on the Kona slopes of Mauna Loa at 3000 feet elevation (1); 3500 feet elevation (2); and 4000 feet elevation (1).

Collectors taking one 'Io specimen each from 1901 to 1931 in various localities include B. D. Chilson, Waiākea Homesteads; L. H. Miller, Horner's Ranch ('Umikoa), Pa'auilo; C. M. Walton, Pāhala; G. C. Munro, Waimea; and A. Wolcott, Kīlauea. C. E. Blacow collected one at Kūka'iau (in 1904?) and one in Hāmākua on 29 February 1906. A number of other specimens were taken around 1900 by undesignated collectors in mostly unspecified localities.

Ninety-nine specimens of 'Io were found to be distributed in museum collections as follows: AMNH (18); BPBM (30); BMNH (6); CMZ (7, incl. one downy yng.); CU (1); FMNH (1); HVNP (1); ISZZ (1); LACM (5 mtd.); MCZ (5); NMNH (18); SMFT (1); RMNH (1); UCB (2); UCLA (1); YPM (1).

Family: RALLIDAE

Porzana palmeri

Vernacular Name: Laysan Rail

Hawaiian Name: (None)

Specimens In Museums: 250

Specimen Labels Abstracted: 250

The type specimen of Laysan Rail was taken alive by H. C. Palmer on 26 June 1891 and sent with others to L. W. Rothschild in England where it was described after it died (Frohawk 1892). Palmer secured a total of at least 31 other specimens, including one egg, from his 16 to 26 June visit to Laysan, and as a result of purchasing live birds in Honolulu, where they were occasionally transported by ship's crews.

The Laysan Rail became a novelty following the visit of Palmer to Laysan in 1891, and a number of notable collections totaling some 60 skins and 16 eggs were made during the following 13 years. R. C. L. Perkins secured two captive specimens in Honolulu in 1893, and an unknown collector obtained six more from an unspecified location in April 1894. H. H. Schauinsland collected 15 specimens during his visit to Laysan in August and September 1897. W. K. Fisher and J. O. Snyder collected 25 specimens, including eight eggs, when they were on Laysan during 17 to 23 May 1902. W. A. Bryan secured 18 birds during his April to May stay on Laysan in 1903, bringing back several alive to Honolulu. M. Schlemmer took two specimens in May 1904, and presumably eight eggs were also secured during this period.

In May 1911, H. R. Dill took eight specimens. The largest single collection was of 46 Laysan Rails ostensibly secured by G. Willett and A. M. Bailey during January to March 1913, though

the collector's name was omitted from labels of many specimens taken during this period. Thirty-six other specimens probably taken during the early 1900's have little or no information on the labels.

E. L. Caum preserved one skin and 38 eggs, apparently from captive Laysan Rails kept over a period of years in Honolulu. The skin represents a bird that died about 10 October 1932, some years after the species became extinct on Laysan.

Laysan Rails were transplanted to Midway Atoll in 1891 and 1913, and possibly as early as 1887 (Baldwin 1947). The first specimen from the resulting colony was secured by an undesignated collector from an unspecified islet of the atoll in August 1902. P. Bartsch took two specimens from Eastern Island, Midway Atoll, on 7 November 1907. A. Wetmore secured five Laysan Rails on 23 and 24 April 1923 on Sand Island, Midway Atoll. Other specimens from "Midway Island" were collected by Caum in 1924 (2 eggs); R. W. Fraser in 1936 (2); and H. J. Spencer and F. E. Garlough on 13 June 1937 (1). The transplanted colony on Midway Atoll became extinct during World War II (Baldwin 1947).

Two hundred fifty Laysan Rail specimens were found to be distributed in museum collections as follows: AMNH (44, incl. type); ANSP (2); BPBM (18, incl. 2 mtd.); BMNH (12, incl. 1 egg, 4 mtd., 1 skull, 2 alcoholic); CAS (11); CMZ (2); CM (1); CU (1 alcoholic); DMNH (3); FMNH (4); LACM (5); MCZ (11); MNHN (2); NHM (2); NMNH (104, incl. 52 eggs, 1 skel.); ROM (4); RMNH (1); UCB (3); UCLA (4); UMAA (16).

Porzana sandwichensis

Vernacular Name: Hawaiian Rail
Hawaiian Name: Moho

Specimens In Museums: 7
Specimen Labels Abstracted: 7

Identities of flightless rails which may have lived on the major Hawaiian islands during the historic period is not clear. Olson (1973, 1973a) and Ripley (1977) credit only the occurrence of the Moho, Porzana sandwichensis, the type specimen of which was secured during the voyage of Captain James Cook and described in 1789 by J. G. Gmelin (Stresemann 1950).

J. D. Mills, an early day collector who lived on the island of Hawai'i from 1851 to 1887 (Manning 1978), obtained at least five specimens of Moho from Hawelu, a Hawaiian bird-catcher (Wilson 1899). One of these specimens bears the notation "ca. 1859," presumably the year it was collected by Hawelu. Despite searches made for it, the Moho was not found by S. B. Wilson in 'Ola'a in 1887 or by R. C. L. Perkins in Ka'ū in 1892.

Seven specimens of Moho, mostly without information, were found to be distributed in museum collections as follows: AMNH (2); BMNH (1 mtd. skin); BPBM (2 mtd.); CMZ (1 mtd.); RMNH (type).

Gallinula chloropus sandvicensis

Vernacular Name: Hawaiian Gallinule
 (a subspecies of Common Gallinule)
 Hawaiian Name: 'Alae-'ula

Specimens In Museums: 61
 Specimen Labels Abstracted: 61

The earliest specimen of record is labeled 1839, taken during the visit of the French vessel Venus to Hawai'i. Two specimens were collected by Behn in 1846 during the stay of the Danish corvette Galathea in Honolulu. T. R. Peale secured a specimen earlier on O'ahu during the U. S. Exploring Expedition visit to the Islands in 1840 to 1841, but Streets (1877), who described the species, states that the skin presumably obtained earlier by Peale was lost.

H. C. Palmer was the only collector of Hawaiian birds who systematically obtained specimens of 'Alae-'ula from more than one island, taking (mostly in undesignated localities) seven on O'ahu in May, June, and September; two on Kaua'i (one in March); and three on Moloka'i in January and February from 1891 to 1893.

There are only two specimens of record from the island of Hawai'i, one taken by S. B. Wilson at Kiholo, probably in November 1887; and one secured on 23 April 1898 in Hilo by an unspecified collector, probably H. W. Henshaw.

On Maui, a specimen was secured by an unknown collector on 11 September 1879 at Waike (Waiehu?) and another was taken by R. C. McGregor on 2 September 1900 near Lahaina.

On Moloka'i, M. J. Flood collected two 'Alae-'ula (one in a taro pond) in February 1895 at undesignated localities. G. C. Munro secured one specimen on Moloka'i at Pālā'au in December 1902.

On O'ahu, M. J. Flood secured four 'Alae-'ula in Honolulu in 1894 and 1895. J. D. Seabury, J. McGuire, and F. McGuire took nine specimens on O'ahu, probably around 1900, in the following habitats: marsh (3); rice field (3); taro patch (1); "lot of reeds" (1); undesignated (1)--all located in unspecified localities. Single specimens were collected on O'ahu by W. A. Bryan on 26 February 1907 at Waialua and on 5 March 1907 at Diamond Head (presumably on the crater playa); by L. H. Miller on 15 June 1903 in Honolulu; by A. Wetmore on 20 August 1923 at Kawai Nui; by W. Paty on 27 December 1936 in an undesignated locality; and by D. Anderson on 22 December 1938 in Nu'uau Valley.

Sixty-one specimens of 'Alae-'ula were found to be distributed in museum collections as follows: AMNH (15); AIM (1); BPBM (10, incl. 2 mtd.); CU (1); FMNH (1); ISZZ (3); LACM (1); MCZ (15); MNHN (2); NMNH (6, incl. type); UCB (3); YPM (3).

Family: RECURVIROSTRIDAE

Himantopus mexicanus knudseni

Vernacular Name: Hawaiian Stilt
(a subspecies of Black-necked Stilt)

Hawaiian Name: Ae'o

Specimens In Museums: 55

Specimen Labels Abstracted: 55

The Ae'o was described in 1887 by Stejneger (1888) from one of two specimens taken on Kaua'i at an unspecified date by V. Knudsen. H. C. Palmer secured five on Kaua'i in February and March 1891, and in July and December 1893. G. C. Munro preserved skins of two specimens taken on Kaua'i in May 1895 and October 1899. A. F. Judd is also credited with a bird taken at Waimea, year unknown, and A. Seale collected three at an unnamed locality on 4 May 1900. Professor Collett presented a specimen taken at an unknown locality on Kaua'i, perhaps obtained from another collector, to a museum at an early date (1893 ?).

Palmer secured six specimens of Ae'o from Ni'ihau, five on 27 July and one in August 1893. V. Knudsen also obtained two Ae'o on Ni'ihau, both on unspecified dates but probably a few years before 1893.

Thirteen specimens of Ae'o have originated from O'ahu. S. B. Wilson took one specimen at Waialua in October 1888 and he is credited with four others, obtained by undesignated collector(s) in August and September 1892 after Wilson's return to England.

Palmer secured two birds on 6 May 1893 at an unspecified locality. Five specimens were taken at unrecorded O'ahu localities by an unknown collector in June and August 1895. The collector, date, and locality of a single egg taken on O'ahu is unknown.

Specimens of Ae'o were taken on Moloka'i by Wilson in June 1888 (3); Palmer on 10 February 1893 (4); and R. C. L. Perkins at Kaunakakai on 16 May 1893 (2).

Only four specimens are known to have been collected on the island of Hawai'i. Wilson obtained three (one in 1896), but the localities were unrecorded. One is attributed to Collett, whose designation "Hawaii" may have meant Hawaiian Islands. Collett's specimen was probably obtained prior to 1893. Seven other specimens of Ae'o are of unknown origin, including two salvaged in 1955 and 1963 by the Honolulu Zoo.

Fifty-five specimens of Ae'o were found to be distributed in museum collections as follows: AMNH (16); BPBM (8, incl. 1 egg); BMNH (5); CMZ (6); CM (3); FMNH (1); ISZZ (1); MCZ (4); NMNH (4); RMNH (2); ROM (1); SMFT (2); WSM (1 skel.); YPM (1).

Family: STRIGIDAE

Asio flammeus sandwichensis

Vernacular Name: Hawaiian Owl

Hawaiian Name: Pueo

Specimens In Museums: 70

Specimen Labels Abstracted: 30

The Pueo was first noted in 1778 during Captain James Cook's discovery voyage (Stresemann 1950). It was first described in 1826 by A. Bloxam (Bryan and Greenway 1944). Wilson and Evans (1891) acknowledge previous descriptions and observations of the Pueo in the Hawaiian Islands, but correctly considering it to be conspecific with the Old and New World form, apparently took only a single specimen. Rothschild (1900) measured eight specimens collected by H. C. Palmer on Kaua'i, O'ahu, and Lāna'i, and described the presently recognized subspecies.

On the island of Hawai'i specimens of Pueo were secured by the U. S. Exploring Expedition in 1840 to 1841, according to Peale (1848), but collecting localities were not cited. One bird was obtained in Hilo by members of the Challenger Expedition during their short visit in August 1875. In 1902 and 1903, H. W. Henshaw collected seven specimens of Pueo from: Hāmākua (3); Pāhala (2); Waimea Plain (1); and Hilo (1). C. M. and M. L. Walton collected seven Pueo, one each in Pāhala and five in unspecified locations, M. L. Walton dating his specimen 1902. L. H. Miller obtained a Pueo at Horner's Ranch ('Umikoa), Hāmākua, on 27 December 1902. W. E. Banko salvaged a specimen from the Hawaiian district of Puna on 25 February 1968.

Eight Pueo were taken from O'ahu, four being from Honolulu, including one undated skin collected by O. Degener. C. J. Judd collected two birds at Pūpūkea on 24 January 1933. W. A. Bryan secured one at an unidentified locality on 28 January 1901. Palmer obtained another undated specimen at an undisclosed locality on O'ahu.

One specimen, probably taken by G. C. Munro, was taken at Ka'a, Lāna'i on 27 January 1928.

W. A. Bryan secured a Pueo at Hamikolilolilo (Hanalilolilo ?), Moloka'i on 21 April 1907.

R. C. McGregor obtained a bird in 'Iao Valley, Maui on 27 December 1899.

On Kaua'i, members of the Crocker Expedition took a specimen at an unspecified locality at 4000 feet elevation on 26 November 1936.

One Pueo was taken by an undesignated collector at an undisclosed location on 23 February 1900.

Seventy specimens of Pueo were found to be distributed in museum collections as follows: AMNH (14); ANSP (2); BPBM (20); BMNH (5); HVNP (1); MCZ (12); NMNH (2); SMFT (2); UCB (2); LACM (7); WSM (1); YPM (2).

Principal repositories of specimens having unabridged label information were found to be: AMNH (11); BPBM (8); MCZ (12).

Family: CORVIDAE

Corvus tropicus

Vernacular Name: Hawaiian Raven/Crow
Hawaiian Name: 'Alalā

Specimens In Museums: 72
Specimen Labels Abstracted: 72

According to Wilson and Evans (1893), J. Latham described the species in 1781 from specimen(s) which must have been collected on Captain James Cook's last voyage. But Stresemann (1950), while acknowledging that it was well described on Cook's voyage, recognizes the scientific name as C. hawaiiensis and the describer as Peale. Bryan and Greenway (1944) also recognize C. hawaiiensis Peale 1848. No clues as to the present status of the type specimen emerged in the survey of museum collections.

J. K. Townsend obtained two 'Alalā specimens from Ka'awaloa. T. Ballieu collected two, probably in 1876, from an undesignated locality. S. B. Wilson obtained seven specimens during June and July 1887, and March 1888. Three of Wilson's examples were taken from Pu'u'anahulu, one from Ka'awaloa, and two from Kona District, which includes the localities cited. Four other 'Alalā specimens, taken by an unspecified collector in undesignated localities, are credited to Wilson, but two were collected in June 1899 after he had returned to England (Wilson and Evans 1899). The remaining two specimens were perhaps taken by Wilson or they may have passed into his possession later from an unrecorded collector; date and locality data were omitted from labels of both.

H. C. Palmer collected a total of 13 'Alalā in North and South Kona Districts in September, October, and November 1891. These specimens were obtained at Ka'awaloa (5); Pu'u Lehua (Pulehua Ranch) (2); Honomalino (2); and "Holo-Kalili" (a corruption of Holokaalele, J. B. Greenwell, pers. comm.) (5). A label on a specimen taken in Kona District on 11 March 1891 bears G. C. Munro's name, though Palmer's diary (Rothschild 1893) states that Munro was on Kaua'i at that time.

Two young 'Alalā were secured on 8 April 1895 by an unknown collector in an undesignated locality. R. C. L. Perkins secured six specimens in March 1896 at 3000 feet elevation in Kona District in a locality that he was familiar with from former

visits, apparently near Ka'awaloa or Pu'u Lehua (Pulehua Ranch). A. Seale took five specimens in North Kona District on 20 April 1901.

In Ka'ū District, H. W. Henshaw took a total of 27 'Alalā specimens, as follows: "Halfway House" (see Olson 1974 for geographical details) on 25 October (3) and 25 November 1899 (2); Kapāpala on 4 and 15 December 1901 (8); Nā'ālehu on 14 and 15 December 1901 (3); 'Ainapō during 26 February to 3 March 1902 (7); and unspecified localities on 10 and 12 June 1899 (4). E. Damon secured a specimen on (4?) January 1902 at an undesignated place. Two specimens without data are also preserved. Since these birds are in the Los Angeles County Museum, they were probably taken by C. M. Walton a resident of Pāhala, Ka'ū District, in the 1890's who later donated his collection to that repository.

Seventy-two 'Alalā specimens were found to be distributed in museum collections as follows: AMNH (13); ANSP (2); BPBM (19); BMNH (5); CMZ (8); CU (1); ISZZ (1); LACM (2 mtd.); MCZ (4); MNHN (2); NMNH (10); RMNH (2); SMFT (2); YPM (1).

Family: TURDIDAE

Phaeornis obscurus myadestina

Vernacular Name: Kaua'i Thrush
Hawaiian Name: Kāma'o

Specimens In Museums: 47
Specimen Labels Abstracted: 47

J. K. Townsend collected a single specimen somewhere on Kaua'i during his visit to the Hawaiian Islands in 1835 to 1837. Stejneger (1888) described the Kāma'o from a specimen received on 24 December 1886 from V. Knudsen. Knudsen supplied Stejneger with two additional specimens on 22 July 1889, and was probably responsible for collecting three others in September 1888.

H. C. Palmer collected three Kāma'o in January in 1891, and 12 additional specimens bear labels with dates which overlap his visit to Kaua'i from January to April 1891. R. C. L. Perkins took four specimens at 4000 feet elevation in May 1894, and six at Kahōluamanu in October 1895. G. C. Munro took a specimen near Makaweli on 5 July 1899 and probably another at an undesignated locality on 30 August 1899.

Four specimens were collected by W. A. Bryan and A. Seale in April and May 1900. Bryan took one example at Kahōluamanu on 17 April. L. H. Miller took two specimens on 31 March 1903 at Līhu'e. Several other specimens with little or no data on the labels are also preserved in collections.

Forty-seven specimens were found to be distributed in museum collections as follows: AMNH (18); AIM (1); ANSP (1); BMNH (8); CMZ (4); MCZ (1); MNHN (4); NMNH (4, incl. type); RMNH (2); SMFT (1); UCLA (2); WSM (1).

Phaeornis obscurus oahuensis

Vernacular Name: O'ahu Thrush
Hawaiian Name: 'Āmaui

Specimens In Museums: 0
Specimen Labels Abstracted: 0

The 'Āmaui was described by Wilson and Evans (1899, in Introduction) from notes made of one specimen collected by A. Bloxam in 1825 (Jones 1925). This race has not been seen since, and the sole specimen has apparently been lost (Amadon 1950).

Phaeornis obscurus rutha

Vernacular Name: Moloka'i Thrush
Hawaiian Name: Oloma'o

Specimens In Museums: 52
Specimen Labels Abstracted: 52

S. B. Wilson collected the first specimen of Oloma'o on Moloka'i from an undesignated locality in June 1888, but considered it identical with the Lāna'i race and did not describe it (Wilson and Evans 1891).

H. C. Palmer secured 17 specimens at unspecified localities on Moloka'i from 17 December 1892 through 26 January 1893. R. C. L. Perkins collected six Oloma'o on Moloka'i during May, June, and September 1893. Four additional birds dated November 1902 are credited to Perkins, though he is not known from his published account (Perkins 1913) to have visited Moloka'i that year. Three specimens taken in December 1894 and February 1895 were apparently taken by (O. D.?) Flood. G. C. Munro secured six specimens of Oloma'o somewhere on Moloka'i in October and November 1906, and June 1907.

W. A. Bryan collected 13 birds on Moloka'i in April, May, and June 1907, and described the form (Bryan 1908). These were taken at Punalu (? Punalau) (2); Kilohana (1); Hālawa (3); Moanui (1); "Brown's Ranch" (Pu'u o Hoku) (2); and Wailua (? Wailau) (1), and along Pelekunu Trail (3). Two other specimens were obtained somewhere on Moloka'i in May and July 1907, possibly by Munro who was not always careful in labeling specimens.

Fifty-two specimens were found to be distributed in museum collections as follows: AMNH (19); BPBM (22); BMNH (3); CMZ (3); MCZ (3); NMNH (1); ROM (1).

Phaeornis obscurus lanaiensis

Vernacular Name: Lana'i Thrush
 Hawaiian Name: Oloma'o

Specimens In Museums: 44
 Specimen Labels Abstracted: 44

Although Wilson (1891), who collected and described the Oloma'o, states that several were collected only the apparent holotype bearing the date June 1888 is known.

H. C. Palmer secured 20 specimens from 1 to 26 November 1892 but there is no locality record on any of the labels.

R. C. L. Perkins collected seven birds on Lāna'i on his first visit from December 1893 to March 1894 and took three specimens in July 1894 during his second visit. Two birds were taken at 3000 feet elevation, two were from Lāna'ihale, and six were collected at unknown localities. E. Weiske took one specimen at an unidentified site in February 1894.

G. C. Munro collected six Oloma'o from December 1922 to November 1923, and two others at unspecified times. Five of these specimens were secured at Kaiholena Gulch and one was taken at Lāna'ihale.

Four Oloma'o were collected on Lāna'i without the date, locality, or collector having been recorded.

Forty-four specimens were found to be distributed in museum collections as follows: AMNH (16); ANSP (1); BPBM (13); BMNH (5); CMZ (3, incl. apparent holotype); MCZ (1); MNHN (1); ROM (2); RMNH (1); SMFT (1).

Phaeornis obscurus obscurus

Vernacular Name: Hawai'i Thrush
 Hawaiian Name: 'Ōma'o

Specimens In Museums: 180
 Specimen Labels Abstracted: 124

The first specimen was collected in 1779 during Captain James Cook's voyage and described by J. G. Gmelin in 1789 (Stresemann 1950). Members of the U. S. Exploring Expedition obtained an 'Ōma'o on the road from "Napolo" (Nāpō'opo'o?) to the volcano (Kīlauea) on 16 November 1840. Four specimens secured in August 1875 during the week-long visit of the Challenger Expedition were from Hilo.

S. B. Wilson obtained at least 12 specimens in 1887 and 1888 from Ka'awaloa (1); Kona (1); Waimea (2); Punalala (?); Waimea (2); Mānā (2); Palopopa (?) (1); and unspecified localities (3).

H. C. Palmer collected nearly 20 'Ōma'o in 1891 and 1892 (Rothschild 1893) in unreported localities. G. C. Munro, Palmer's assistant, obtained one specimen in Kona District on 19 September 1891.

R. C. L. Perkins obtained one undated specimen in 'Ōla'a and three examples in July 1895 in Ka'ū District.

H. W. Henshaw collected 84 'Ōma'o from 1898 to 1902. He listed three localities, Kaumana, Kea'au, and 'Ōla'a, together on 27 labels. Others secured by singly designated localities are as follows: Kaiwiki (24); 'Ōla'a (24); 'Ainapō, Ka'ū (3); Kaumana (3); Volcano (2); "Puluhua" (Pulehua Ranch) (1).

R. C. McGregor collected one specimen on 18 January 1900, reporting it from "Mts. on Hawaii." A. Wolcott took one on 2 April 1901 at Kīlauea (crater).

L. H. Miller collected five specimens on 22 December 1902 at "Pauiilo" (Pa'auilo). C. E. Blacow also secured five 'Ōma'o in 1902 and 1903 at Horner's Ranch ('Umikoa). C. M. Walton obtained two undated specimens, probably around 1900 and likely near the village of Pāhala where he lived.

P. H. Baldwin collected three specimens in 1948 and 1949, one in each of the following localities: Solomon's Waterhole, Keauhou, Ka'ū District; Volcano-Pu'u'Ō'Ō Trail, South Hilo District; and 0.25 mile north of Hawaii National Park Boundary, Keauhou, 7500 feet elevation, Ka'ū District.

One hundred eighty specimens were found to be distributed in museum collections as follows: AMNH (22); ANSP (1); BPBM (58); BMNH (14); CAS (1); CMZ (8); CM (3); CU (2); LACM (2); MCZ (14); MNHN (2); NMNH (29); SMFT (7); UCB (11); UCLA (4); WSM (1); YPM (1).

Principal repositories of specimens having unabstracted label information were found to be: AMNH (21); BMNH (5); MCZ (14); SMFT (6).

Phaeornis palmeri

Vernacular Name: Small Kaua'i Thrush
Hawaiian Name: Puaiohi

Specimens In Museums: 13
Specimen Labels Abstracted: 13

The type specimen of Puaiohi was collected in 1891 by H. C. Palmer near V. Knudsen's mountain house, Halemanu, about 4000 feet elevation. The date 24 March appears on the label of this example, though stated to be 21 March according to Rothschild (1893) who described the species. Two other examples were secured by Palmer on 2 July 1893, presumably in the same area.

R. C. L. Perkins collected eight specimens and labeled them variously. All but one bird with no date or locality are designated "Halemanu"..."May 1895"..."4000 ft."..."1895"...or combinations thereof.

F. Richardson and J. Bowles collected one specimen each at 3300 feet elevation near Koai'e Cabin, Alaka'i, on 19 and 20 July 1960, respectively.

Thirteen specimens of Puaiohi were found to be distributed in museum collections as follows: AMNH (3); BPBM (3); BMNH (3); CMZ (3, incl. one pickled); MCZ (1).

Family: SYLVIIDAE

Acrocephalus familiaris familiaris

Vernacular Name: Laysan Millerbird

Hawaiian Name: (None)

Specimens In Museums: 78

Specimen Labels Abstracted: 78

H. C. Palmer and G. C. Munro collected 11 and two specimens, respectively, during their visit to Laysan Island in June 1891. In addition, two specimens dated August 1896 bear Palmer's name though undoubtedly taken originally by H. H. Schauinsland. After description by Rothschild (1892b) the type specimen presumably passed with his collection to the American Museum of Natural History. H. H. Schauinsland also collected nine other examples during his stay on Laysan from July to August 1896. The label on one specimen from an unknown collector is dated October 1885.

W. K. Fisher collected six specimens of the Laysan Millerbird from 19 to 23 May 1902, and J. O. Snyder preserved three eggs of this species during the same period. P. Bomke took three specimens about 1902. In 1903, W. A. Bryan collected 24 specimens during April and May. One Laysan Millerbird from an unspecified collector is dated 12 May 1904.

Six birds were obtained on J. E. Thayer's trip from 16 to 19 May 1907. Three specimens were taken in May 1911 during a visit by H. R. Dill and W. A. Bryan. Eight specimens were secured during the visit of A. M. Bailey and G. Willett to Laysan in January and February 1913.

Two specimens from unspecified collectors are also extant, one labeled "pre-1900," the other dated 1 September 1913.

Seventy-eight specimens of Laysan Millerbird were found to be distributed in museum collections as follows: AMNH (20); ANSP (1); BPBM (23); BMNH (3, incl. one in spirits); CM (1); FMNH (2); MCZ (8); NMNH (12, incl. 2 eggs); ROM (3); UCLA (1); UMAA (2).

Acrocephalus familiaris kingi

Vernacular Name: Nihoa Millerbird
 Hawaiian Name: (None)

Specimens In Museums: 26
 Specimen Labels Abstracted: 26

A. Wetmore collected 17 specimens of the Nihoa Millerbird 11 to 15 June 1923 and described the species (Wetmore 1924). G. Vanderbilt secured an additional nine examples during his visit in August 1940.

Twenty-six specimens of Nihoa Millerbirds were found to be distributed in museum collections as follows: AMNH (1); ANSP (7); MCZ (1); NMNH (17, incl. type and 1 complete skel.).

Family: MUSCICAPIDAE

Chasiempis sandwichensis sclateri

Vernacular Name: Kaua'i 'Elepaio
 Hawaiian Name: 'Elepaio

Specimens In Museums: 128
 Specimen Labels Abstracted: 50

Ridgway (1882) described the Kaua'i 'Elepaio in 1881 from two specimens collected in Waimea and sent him by V. Knudsen.

S. B. Wilson obtained nine birds in 1888, at least one in August and five in September. Localities for seven are given as "4000 ft.," one is listed as "Koula" (?), and one is marked "Alle Maitu" (?).

H. C. Palmer collected 17 'Elepaio during his visits to Kaua'i in 1891 and 1893 (Rothschild 1893), but apparently did not write his name on the labels. Nine undated specimens, probably obtained by Palmer, turned up in the survey of museum collections, five taken at Kahōluamanu and four at Halemanu.

R. C. L. Perkins secured 11 'Elepaio in May 1894 and October 1895. The locality given for seven specimens is Kahōluamanu, while two skins are labeled "4000 ft." and two others have no locality listed.

The initials "G. & R." (probably F. Gay and A. Robinson) are given on one of two specimens collected in 1894, one at Kahōluamanu and the other at Makaweli. G. C. Munro secured four Kaua'i 'Elepaio at Makaweli in 1898 and 1899. Another early collector, A. F. Judd, took a single specimen at Pu'uka-Pele, but there is no date on the label.

W. A. Bryan and A. Seale collected four specimens in April 1900, two at Halemanu and two at Kahōluamanu.

L. H. Miller obtained two Kaua'i 'Elepaio on 29 March 1903 at Līhu'e.

J. A. Kusché took seven examples in September and October 1919, and April 1920 at "Kalalau Ridge" (4); "4500 ft. Kalalau Ridge" (1); "4000" ft. (1); and undesignated locality (1).

F. Richardson took a single specimen on 19 August 1960 on the Miloli'i Trail, Kōke'e.

One hundred twenty-eight specimens of Kaua'i 'Elepaio were found to be distributed in museum collections as follows: AMNH (45); BPBM (20); BMNH (28); CAS (7); CMZ (8, incl. 2 pickled); CM (2); CU (1); MCZ (8); MNHN (3); SMFT (3); UCLA (2); WSM (1).

Principal repositories having unabridged label information were found to be: AMNH (34); BPBM (11); BMNH (21); MCZ (8).

Chasiempis sandwichensis gayi

Vernacular Name: O'ahu 'Elepaio

Hawaiian Name: 'Elepaio

Specimens In Museums: 148

Specimen Labels Abstracted: 71

The 'Elepaio was collected only intermittently by early naturalists on O'ahu. J. K. Townsend took two specimens, one on 10 January 1834. Because of unrepresentative collections, the identity of the O'ahu 'Elepaio remained confused with that of its congeners until the 1890's when Wilson (1891a) defined the basic relationships. Wilson indicates that he collected a fair number of specimens; however, information on only five turned up in the survey of museum collections. All were taken in October 1888, four at Helemanu and one at an unspecified location.

H. C. Palmer took 11 'Elepaio in 1893 at "Kolauloa" (Ko'olau Loa) (4); "Wailua" (Waialua) (6); and "Wailukui" (1). In addition, there are 16 specimens without dates or collectors' names which were probably secured by Palmer at Wai'anae (7); Kawailoa (4); Waialua (3); Ko'olau Loa (1); and Waipi'o (1).

R. C. L. Perkins collected 18 birds in March and April of 1892 and 1893. Eight of Perkins' specimens were obtained on Ka'ala Mountain, eight in the Wai'anae (range), and three at Leilehua.

W. A. Bryan and A. Seale collected four 'Elepaio each in the Wai'anae (range) from January to March 1901.

L. H. Miller obtained seven 'Elepaio in Kalihi Valley, Honolulu, 30 May 1901, and 14 and 15 March 1902.

C. E. Blacow collected two specimens in 1903 at Leilehua. C. M. Walton obtained two birds at unspecified dates and locations.

One hundred forty-eight specimens of O'ahu 'Elepaio were found to be distributed in museum collections as follows: AMNH (50); ANSP (1); BPBM (12); BMNH (45); CMZ (11); CM (2); CU (1); LACM (2); MCZ (9); NMNH (2); SMFT (4); UCB (3); UCLA (6).

Principal repositories having unabridged label information are: AMNH (21); BPBM (12?); BMNH (30); MCZ (9).

Chasiempis sandwichensis sandwichensis

Vernacular Name: Hawai'i 'Elepaio

Hawaiian Name: 'Elepaio

Specimens In Museums: 516

Specimen Labels Abstracted: 348

The 'Elepaio was described in 1789 by J. G. Gmelin from one or more of at least two specimens collected during Captain James Cook's visit to the island of Hawai'i in February 1779 (Stresemann 1950). The subsequent collection of specimens and complications of synonymy are cited by Wilson and Evans (1896).

Wilson took an obvious interest in the identity of the Hawai'i 'Elepaio for his taxonomic studies, securing 47 specimens in 1887 and 1888. Birds were collected at Mānā dairy (9); Mānā (8); Waimea (6); Ka'awaloa (6); Pu'uwa'awa'a (3); Keauhou, Kona (3); 'Ōla'a (3); "Puualala" (?) (2); "Paleokapapa" (?) (1); Kilauea (1); "Puevawoa" (?) (1); "Paliuhapipa" (?) (1); and unspecified (3).

R. C. L. Perkins obtained 28 'Elepaio during his four visits to Hawai'i in 1892, 1894, 1895, and 1896. Specimens were taken at Hilo, Kaumana, 2000 feet elevation (7); Mauna Loa, Kona, 2000 feet elevation (6); Mauna Loa (near Nāhuina) nearly 4000 feet elevation (3); Mauna Loa Pu'u Lehua (Pulehua Ranch), about 2000 feet elevation (2); Mauna Loa Pu'u Lehua, 4000 feet elevation (3); Kona, 5000 feet elevation (1); Kona, 4000 feet elevation (2); Kona, 3000 feet elevation (1); and Ka'ū (3).

H. W. Henshaw, an avid collector, took 202 specimens of Hawai'i 'Elepaio from 1898 to 1903, most of his examples coming from the windward side of the island. Specimens were collected at 'Ōla'a (47); Kaiwiki (19); "Kuaia" (near Laupāhoehoe) (18); Kaumana (16); Volcano (14); Pāhala, Ka'ū (10); Kapāpala (7); "Dalways" (Ka'ū Halfway House) (4); Kukuiahaele (1); Nā'ālehu, Ka'ū, 3000 feet elevation (1).

In addition, H. W. Henshaw secured two collections of 'Elepaio on the leeward side of the island, 63 at Pu'u Lehua (Pulehua Ranch) in December 1901, and two at Keauhou, Kona, during the same period.

A. Seale obtained 22 specimens in 1901, 20 at Kīlauea/Volcano House from 27 March to 11 April, and two from "N. Kona" on 21 and 23 April.

C. E. Blacow took 15 'Elepaio in 1903 and 1906 at Horner's Ranch ('Umikoa), Hāmākua, at the following elevations (feet): 1800 (1); 2250 (1); 3000 (1); 3200 (1); 4000 (5); 4100 (2); 7800 (1); unspecified (3). L. H. Miller collected another seven birds on 22 and 23 December 1902 in the same general area, at Pa'auilo.

G. C. Munro took one 'Elepaio at Kona on 19 November 1891, another at Hāmākua on 2 September 1892, and an undated third at 'Ōla'a. E. Weiske collected two at 3000 feet elevation (Kona?) in February 1894, and A. M. Walcott secured four others in 1894 near the Volcano House. A. Koebele obtained one specimen at Kīlauea in September 1896. C. M. And M. L. Walton took six other undated specimens at unspecified locations, probably near Pāhala, before 1900. B. Arnold took two birds at "keau" (Kea'au) on 27 May and 16 June 1898.

In 1938, 1939, and 1941, P. H. Baldwin (sometimes collecting with D. Abbott) obtained seven specimens in Hawaii Volcanoes National Park at Kīpukakulālio, 5500 to 6000 feet elevation (3); Kīpukapuāulu, 4000 feet elevation (2); Mauna Loa truck trail, 6000 feet elevation (1); and 1 mile southwest of 'Alae Crater, 2950 feet elevation (1). In 1949, Baldwin secured a specimen on the Pu'u'Ō'Ō-Volcano Trail on 6 January; another at Keauhou, Kona, 4100 feet elevation, on 29 July; and three others in Hāmākua, N. Hilo District (two at 4500 ft. elev. and one at 4100 ft. elev.).

D. H. Woodside secured a specimen on 30 June 1954 along the Hilo to Pōhakuloa road at 3000 feet elevation and P. Brodkorb collected another example at Pōhakuloa on 29 April 1964.

Five hundred sixteen specimens of Hawai'i 'Elepaio were found to be distributed in museum collections as follows: AMNH (56); ANSP (3); BPBM (223); BMNH (43); CAS (2); CMZ (29); CM (4); CU (4); FMNH (1); HVNP (7); LACM (6); MCZ (9); MNHN (4); NMNH (88); SMFT (5); UCB (22); UCLA (5); UMAA (2); YPM (3).

Principal repositories having unabridged label information were found to be: AMNH (34); BPBM (10); BMNH (9); MCZ (9); NMNH (88).

Family: MELIPHAGIDAE

Moho braccatus

Vernacular Name: Kaua'i 'Ō'ō

Hawaiian Name: 'Ō'ō'ā'ā

Specimens In Museums: 101

Specimen Labels Abstracted: 101

Wilson and Evans (1890) credit Captain James Cook's naturalists with collecting the single specimen of 'Ō'ō'ā'ā described by J. Latham, but this apparent possibility is not recognized by Stresemann (1950). Bryan and Greenway (1944) recognize description by Cassin in 1855 as the original. Whatever the case, the early example taken during Cook's voyage, if it ever existed, is apparently lost. All specimens now extant bear dates of 1888 or later.

Wilson evidently obtained 11 'Ō'ō'ā'ā, four taken in September and two in October 1888, plus five undated given later to R. C. L. Perkins. H. C. Palmer collected 53 specimens from January to August 1891. Since Palmer departed Kaua'i at the end of April with G. C. Munro, the four specimens dated May, July, and August must have been taken by another collector. G. C. Munro collected 13 specimens, two while with Palmer at unspecified localities on 23 January and 6 March 1891; three at undesignated places on 13 March 1896 and June 1898; and eight near Makaweli on 10 September (3) and 15 September (2) 1898, and one each in January, February, and March 1899.

R. C. L. Perkins took seven birds but he evidently secured only five of them himself: two at an unspecified locality at 4000 feet elevation in May 1894; two at Kahōluamanu in October 1895; and one undated from an unspecified locality. As indicated by the dates, Perkins obviously obtained two specimens from Wilson's earlier collection.

A number of specimens with incomplete information were also secured by others, as follows: (?) Mills (1); V. Knudsen (5); F. Gay (?) (1); A. F. Judd, Jr., Pu'uka-Pele, undated; and G. B. (?), Makaweli on 17 January 1893. Collectors' names are missing from an additional nine specimens.

F. Richardson secured one 'Ō'ō'ā'ā at 3250 feet elevation near the Koai'e Cabin on 21 July 1960, the only specimen of record collected since 1900.

One hundred one specimens of 'Ō'ō'ā'ā were found to be distributed in museum collections as follows: AMNH (31); AIM (1); BPBM (21, incl. 1 mtd.); BMNH (10); CMZ (5, incl. 1 pickled); CM (2); MCZ (3); MNHN (3); NMNH (7, incl. 2 alcoholic); NMNZ (1); RMNH (3, incl. 1 skel.); ROM (10); SM (1); SMFT (1); UMAA (1); WSM (1).

Moho apicalis

Vernacular Name: O'ahu 'Ō'ō
 Hawaiian Name: 'Ō'ō

Specimens In Museums: 8
 Specimen Labels Abstracted: 8

The O'ahu 'Ō'ō is known only from a few very old specimens. Rothschild (1900), and Wilson and Evans (1894) speak of an example brought to England by Lord Byron from the visit of the Blonde in 1824, at least two specimens obtained by F. Deppe in January 1837, and three others taken by unspecified collectors. There is, in addition, an 1834 skin labeled "Bolta" (?). According to Bryan and Greenway (1944) the species was described by Gould in 1860.

Eight specimens of O'ahu 'Ō'ō were found to be distributed in museum collections as follows: AMNH (2); BMNH (2, incl. 1 semi-mtd.); MCZ (1); MNHN (1); NM (2).

Moho bishopi

Vernacular Name: Moloka'i 'Ō'ō
 Hawaiian Name: 'Ō'ō

Specimens In Museums: 28
 Specimen Labels Abstracted: 28

The Moloka'i 'Ō'ō was first described by Rothschild (1900) from a specimen collected on 26 December 1892 by H. C. Palmer. Palmer secured 15 other specimens from 17 December 1892 until January 1893. Localities for Palmer's specimens were not recorded on the labels.

R. C. L. Perkins collected nine birds in June, August, and September 1893, taking four from 4000 feet elevation without specifying localities.

G. C. Munro secured one 'Ō'ō from an unspecified location in 1902 (?).

There are also two specimens without any data.

Twenty-eight specimens of Moloka'i 'Ō'ō were found to be distributed in museum collections as follows: AMNH (12, incl. type); BPBM (4, incl. 1 mtd.); BMNH (5); CMZ (3); MCZ (2); ROM (2 co-types).

Moho nobilis

Vernacular Name: Hawai'i 'Ō'ō
 Hawaiian Name: 'Ō'ō

Specimens In Museums: 134
 Specimen Labels Abstracted: 134

The 'Ō'ō from Hawai'i was first described in 1786 by Merrem from a specimen obtained during Captain James Cook's voyage and presented by the King of Great Britain (George III) to the Museum of Göttingen (Stresemann 1950).

S. B. Wilson collected at least 12 'Ō'ō during his visits to the island of Hawai'i, but did not record localities. Likewise, H. C. Palmer obtained 24 specimens in September, October, and November 1891, but left no clues on the labels as to location. Palmer's assistant, G. C. Munro, took one bird in Kona on 30 November 1891.

R. C. L. Perkins secured a total of five Hawai'i 'Ō'ō during June 1892, August 1894, and December 1895, four being from Mauna Loa, 2000 feet elevation; Kona, 2000 feet elevation; an undesignated locality in Kona; and one taken from "Amaulu Hills" ('Amaulu), 2000 feet elevation,

H. W. Henshaw collected 34 birds in 1898, 1899, 1900, and 1902 from Honomū (8); 'Ōla'a (1); Kaiwiki (17); Kaumana (3); and 'Ainapō (5).

Some 57 specimens of Hawai'i 'Ō'ō have little or no information on labels, an unusually large number. Many, perhaps most, of these 'Ō'ō were taken before annotations on specimen labels became a systematic practice.

One hundred thirty-four specimens of Hawai'i 'Ō'ō were found to be distributed in museum collections as follows: AMNH (23); ANSP (13); BPBM (26, incl. 1 mtd.); BMNH (13); CAS (1); CMZ (8); CAM (1); LACM (2 mtd.); MCZ (11); MNHN (11); NM (1); NMNH (14); RMNH (2); ROM (4); SMFT (2); UCLA (1); YPM (1).

Chaetopila angustipluma

Vernacular name: Kioea
 Hawaiian Name: Kioea

Specimens In Museums: 4
 Specimen Labels Abstracted: 4

The Kioea was described by Peale (1848) from a specimen obtained by the U. S. Exploring Expedition's visit to the island of Hawai'i from 1840 to 1841. Three other specimens were stated by Rothschild (1900) to have been collected by J. D. Mills

between the "lower Volcano House" (now the village of Mountain View) and Kilauea. The label on one specimen bears the notation "ca. 1859."

The four existing specimens of *Kioea* were found to be distributed in museum collections as follows: AMNH (1); BPBM (1 mtd.); CMZ (1 mtd.); NMNH (type).

Family: DREPANIDIDAE

Loxops virens stejnegeri

Vernacular Name: Kaua'i 'Amakihi

Hawaiian Name: 'Amakihi

Specimens In Museums: 65

Specimen Labels Abstracted: 16

Wilson (1889) described the Kaua'i 'Amakihi on the basis of specimens he collected at undesignated place(s) in September 1888.

R. C. L. Perkins took 12 'Amakihi in May 1894 and in April and October 1895 at Kahōluamanu (6); 4000 feet elevation, undesignated locality (4); and an unspecified locality (2).

A. F. Judd took one undated specimen at Waimea.

Sixty-five specimens of the Kaua'i 'Amakihi were found to be distributed in museum collections as follows: AMNH (17); ANSP (1); BPBM (16); BMNH (18); CMZ (8, incl. 2 syntypes, 2 pickled); MCZ (2); MNHN (1); SM (1); SMFT (1).

Principal repositories having unabridged label information were found to be: AMNH (17); BPBM (16); BMNH (13).

Loxops virens chloris

Vernacular Name: O'ahu 'Amakihi

Hawaiian Name: 'Amakihi

Specimens In Museums: 172

Specimen Labels Abstracted: 70

The O'ahu 'Amakihi was originally described in 1850 by Professor Cabanis from specimens obtained in January 1837 by F. Deppe (Wilson and Evans 1896). Five of Deppe's specimens and three taken during the same period by his American companion, J. K. Townsend, are still extant. "E. von Chile" (?) collected a single specimen in 1842.

Wilson took only two 'Amakihi in October 1888, one at "Halemano" (Helemano) and another at an undesignated place on O'ahu.

H. C. Palmer secured 23 specimens in April, May, June, and November 1893 in the Wai'anae Range (11); Ko'olau Loa (1); Waialua (5); Kawaihoa (5); Waipi'o (1).

R. C. L. Perkins obtained 12 O'ahu 'Amakihi in March and April 1892, and in January and April 1893 from Ka'ala Mountain (4); Wai'anae Range (5); Wai'anae Range, Leilehua Ranch (2); and Kawaihoa Ranch, Waialua (1).

E. Weiske collected two specimens in an unspecified area in 1894.

L. H. Miller obtained six specimens in 1901 and 1903 from Leilehua Ranch (3); Kalihi Valley (2); and Wai'anae Range (1).

C. E. Blacow collected six O'ahu 'Amakihi in 1903 and 1904 at Leilehua Ranch, 2000 feet (1) and 3400 feet elevation (1); Leilehua Ranch, Wai'anae Range, 3250 feet (1) and 3300 feet elevation (1); Leilehua Ranch, base of Ka'ala Mountain, 3300 feet elevation (1); and Kalihi Valley (1).

L. P. Richards took a specimen near Pu'ukamana, between Waiawa and Kipapa streams on 20 July 1950 and another on the ridge between 'Opae-'ula and Helemano gulches in the Ko'olau Range, 1700 feet elevation, on 2 January 1952.

One hundred seventy-two specimens of the O'ahu 'Amakihi were found to be distributed in museum collections as follows: AMNH (35); ANSP (11); BPBM (56); BMNH (19); CMZ (9, incl. 2 pickled); CM (2); LACM (1 mtd.); MCZ (11); MNHM (2); NM (4); SM (2); SMFT (6); UCB (8); UCLA (6).

Principal repositories having unabridged label information were found to be: AMNH (11); ANSP (11); BPBM (56); BMNH (9); MCZ (11).

Loxops virens wilsoni

Vernacular Name: Maui 'Amakihi

Hawaiian Name: 'Amakihi

Specimens In Museums: 212

Specimen Labels Abstracted: 57

The Maui race of 'Amakihi is found on all three forested islands of the central group--Maui, Lāna'i, and Moloka'i. Wilson (1899) was the first to collect specimens from all three islands in 1888, but the form was described by Rothschild in 1893 (Amadon 1950).

On Maui, O. Finsch took one 'Amakihi in June 1879 and Wilson collected another in July 1888, labels of neither specifying the locality. H. C. Palmer took eight birds in July and August 1892 at "Kalulu" (?) (4); Haleakalā (2); Makawao (1); and Olinda (1). R. C. L. Perkins secured seven specimens in March, April, and May 1894, and February 1896 at Haleakalā, 5000 feet elevation (3); 'Iao Valley (2); and an undesignated place (2). H. W. Henshaw took four birds at Olinda in June 1901. R. C. McGregor collected eight in December 1899, six in the 'Iao Valley and two in West Maui mountains. C. E. Blacow obtained five examples in December 1903, two above Kā'anapali; another two above Kā'anapali "on the southwest part of the island" (?West Maui) at 1800 feet elevation; and the fifth at the "head of Oolawa Gulch 250 ft.," an unidentified locality (Olowalu?).

On Lāna'i, Wilson collected four specimens in June 1888, labeling one "ravine W. ranch," another "500 in ravine to E. of ranch," and a third "ravine near ranch." Perkins secured six specimens on Lāna'i in 1893 and 1894, one at Lāna'ihale, another at Ha'alelepa'akai, and four from undisclosed localities.

On Moloka'i, Wilson collected three 'Amakihi at an unspecified location in June 1888. Perkins took six, also at undisclosed areas, in May, June, and September 1893. W. A. Bryan secured two specimens at "Punalu" (Punalau ?) in April 1907. Two specimens taken by M. J. Flood in December 1894 were "shot in brush in high mountains."

Two hundred twelve specimens were found to be distributed in museum collections as follows: AMNH (60); ANSP (3); BPBM (63); BMNH (31); CMZ (19); CM (3); MCZ (16); NM (1); NMNH (1); UCB (13); YPM (2).

Principal repositories having unabridged label information were found to be: AMNH (46); BPBM (63); BMNH (24); MCZ (16).

Loxops virens virens

Vernacular Name: Hawai'i 'Amakihi
Hawaiian Name: 'Amakihi

Specimens In Museums: 502
Specimen Labels Abstracted: 420

Described in 1788 by J. G. Gmelin (Stresemann 1950), the Hawai'i 'Amakihi acquired a long and complicated synonymy. Included in early collections are two obtained in an unspecified locality by "E. von Chile(?)" in 1842, and four secured in Hilo by members of the Challenger Expedition in August 1875. J. D. Mills also obtained a few specimens sometime between 1851 and 1887.

S. B. Wilson was the first to collect a large series of Hawai'i 'Amakihi, securing a total of 42 in the following localities in 1887, 1888, and 1896: Kona (20); Ka'awaloa (1); Keauhou, Kona (1); Pu'uwa'awa'a (1); Mānā (3); Mānā dairy (2); Waimea (1); Kilauea (9); 'Ōla'a (2); and unspecified (2).

H. C. Palmer took 15 Hawai'i 'Amakihi somewhere in Kona in August 1893. G. C. Munro collected two in Kona and one in Hāmākua in 1891. A. Koebele obtained one specimen in Kona in 1894.

R. C. L. Perkins obtained 13 specimens in 1894, 1895, and 1896, in Ka'ū (5); Kona, 4000 feet elevation (4); Kaumana, Hilo, 2000 feet elevation (2); Hilo (1); and 'Ōla'a (1).

H. W. Henshaw collected 156 Hawai'i 'Amakihi during 1897 to 1902 in 'Ōla'a (91); Kaumana (18); Kaiwika (10); Volcano (9); "Dalways" (Dollaway's) (Ka'ū "Halfway House") (7); Pāhala, Ka'ū (7); Pu'u Lehua (Pulehua Ranch) (6); Kea'au (4); 'Ōhaikea (houses), Ka'ū (2); Hilo (1); Kuaia (near Laupāhoehoe) (1).

B. Arnold obtained one specimen at 'Ōla'a and another at Kaumana in 1898. R. C. McGregor also collected an example at 'Ōla'a and another at Kaiwika in 1899.

A. M. Walcott and A. Seale took 30 Hawai'i 'Amakihi at Kīlauea in March and April 1901. L. H. Miller collected six examples at Pauilo (Pa'auilo) in December 1902.

C. E. Blacow collected 16 'Amakihi at Horner's Ranch ('Umikoa), Hāmākua, and one above Pa'auilo Homesteads, Hāmākua, in 1902, 1903, and 1907. L. H. Miller secured six birds at Pa'auilo in December 1902.

C. M. and M. L. Walton collected 11 specimens in April and May 1902, two at 'Ainapō, one at Pāhala, and eight in unspecified places.

In 1938 and 1940, sometimes collecting with D. Abbott or S. H. Lamb. P. H. Baldwin obtained eight 'Amakihi in Hawaii Volcanoes National Park at Kīpukakulālio (2); Kīpukapuaulu (2); Makaopuhi Crater (2); Kīlauea (1); and Mauna Loa (Strip) Road (1).

In 1948 and 1949, P. H. Baldwin collected 83 specimens for food habits studies in a wide variety of places. Localities and numbers taken at various elevations follow:

Keauhou, Ka'ū	4100 feet (1), 6000 feet (4), 6250 feet (1), 6700 feet (2), 7000 feet (15), 7100 feet (2), 7150 feet (1), 7250 feet (2), 7300 feet (3)
Pōhakuloa, Ka'ohe	7000 feet (1), 7750 feet (1), 8300 feet (3)
Waikahalulu Gulch, Ka'ohe	8300 feet (2), 8400 feet (3)
Pu'u Haiwahine, Ka'ohe	8800 feet (1), 9000 feet (1)

Pu'u Lā'au, Ka'ohe	7600 feet (3), 7750 feet (1)
Pu'u anahulu, North Kona District	2000 feet (2)
0.5 mile S. Pu'u Kihe, Ka'ohe	7750 feet (3)
0.25 mile N. Hawaii National Park Boundary, Keauhou, Ka'ū	7500 feet (1)
1 mile N. Hawaii National Park Boundary, Keauhou, Ka'ū	7600 feet (2)
Kīpukapapalinamoku, Ka'ū	2500 feet (7)
2 miles W. Solomon's Waterhole, Keauhou, Ka'ū	6750 feet (1), 6800 feet (1)
N. rim Kīlauea Crater	4000 feet (3)
Kekekaniho, Keauhou Ranch, Ka'ū	5500 feet (2)
Kekekaniho, Ka'ū	5100 feet (1)
1 mile N. Kīpukakī, Ka'ū	4600 feet (2)
E. flank Mauna Loa	7000 feet (1), 7400 feet (1), 7500 feet (2)
Halepōhaku, Humu'ula	9200 feet (4)
'Āinahou Ranch, Puna District	3000 feet (1)
Makaopuhi Crater	2050 feet (1)

P. Brodkorb collected one Hawai'i 'Amakihi at Pōhakuloa in 1964. F. C. Sibley obtained three specimens on Mauna Loa (Keauhou, Ka'ū) in 1975.

Five hundred two specimens of the Hawai'i 'Amakihi were found to be distributed in museum collections as follows: AMNH (51); ANSP (6); BPBM (143, incl. 18 alcoholic, 5 skels.); BMNH (39); CAS (2); CMZ (13); CM (3); CU (2); FMNH (1 skel.); HVNP (8); LACM (11, incl. 3 mtd.); MCZ (20); NMNH (67); SM (3); SMFT (4); UCB (101); UCLA (55); UMAA (2); YPM (3 pickled).

Principal repositories having unabstracted label information were found to be: AMNH (16); ANSP (6); BPBM (7); BMNH (10); MCZ (20); MNHN (8).

Loxops parvus

Vernacular Name: 'Anianiau

Hawaiian Name: 'Anianiau

Specimens In Museums: 86

Specimen Labels Abstracted: 28

Stejneger (1888) described the 'Anianiau in 1887 from specimens supplied to him by V. Knudsen. Collection date and locality of type specimen(s) are not designated.

S. B. Wilson collected three 'Anianiau in August and September 1888 and two at unspecified times. One was taken at Kō'ula, the only locality mentioned by Wilson.

H. C. Palmer collected a series of 'Anianiau, but of the labels examined, all were taken at an unspecified date at Kahōluamanu.

R. C. L. Perkins took 16 specimens in 1894 and 1895 during April, May, and October. Nine examples were secured at Kahōluamanu, four at 4000 feet elevation at an unspecified location, one at Halemanu, and two at undisclosed places.

A. Seale and W. A. Bryan secured three 'Anianiau in April 1900, two examples being taken at Kahōluamanu.

J. Bowles collected one specimen on 16 August 1960 on the upper Koai'e Stream, 4000 feet elevation.

Eighty-six specimens of 'Anianiau were found to be distributed in museum collections as follows: AMNH (27); ANSP (2); BPBM (32, incl. 1 alcoholic + 1 skel.); BMNH (8); CMZ (11, incl. 2 pickled); RMNH (2 skels.); SMFT (3); WSM (1).

Principal repositories having unabridged label information were found to be: AMNH (21); BPBM (32).

Loxops sagittirostris

Vernacular Name: Greater 'Amakihi

Hawaiian Name: (None)

Specimens In Museums: 32

Specimen Labels Abstracted: 32

H. C. Palmer secured the type and co-type specimens on 30 April and 10 May 1892, respectively, but no locality information appears on the labels. Rothschild (1892b) described the species that same year. R. C. L. Perkins collected four examples at 2000 feet elevation above Hilo in January 1896.

The largest number of specimens (21) was taken by H. W. Henshaw in Kaiwika during January, February, March, and November 1900, and June 1901, plus one on an unspecified date.

A. M. Walcott secured three specimens during 8 to 9 April 1901, and one additional undated example. One other specimen without data is also extant.

Thirty-two specimens of Greater 'Amakihi were found to be distributed in museum collections as follows: AMNH (5, incl. type and co-type); BPBM (16); BMNH (3); CMZ (2, incl. 1 mtd. skin and body in spirits); LACM (1 mtd.); MCZ (3); NMNH (1); SMFT (1).

Loxops maculata bairdi

Vernacular Name: Kaua'i Creeper
Hawaiian Name: 'Akikiki

Specimens In Museums: 93
Specimen Labels Abstracted: 23

Stejneger (1888) provided the original description of the 'Akikiki in 1887 from specimens collected by V. Knudsen.

S. B. Wilson secured six specimens at an unspecified locality in September 1888.

H. C. Palmer took two of three specimens at Halemanu and Kahōluamanu in March, April, and June 1893.

R. C. L. Perkins collected one undated specimen and 10 others in May 1894 and in April and October 1895 at Kahōluamanu (6), 4000 feet elevation (2), and unspecified localities (3).

W. A. Bryan obtained one 'Akikiki on 19 April 1900 at Kahōluamanu.

F. Richardson took one bird on 19 April 1960 near the Koai'e Stream at about 3750 feet elevation.

Ninety-three specimens of the 'Akikiki were found to be distributed in museum collections as follows: AMNH (24); BPBM (30, incl. 1 skel.); BMNH (15); CMZ (9); CM (1); MCZ (6); MNHN (2); SM (2); SMFT (3); WSM (1).

Principal repositories having unabridged label information were found to be: AMNH (21); BPBM (30); BMNH (10); MCZ (6).

Loxops maculatus maculatus

Vernacular Name: O'ahu Creeper

Hawaiian Name: 'Alauwahio

Specimens In Museums: 69

Specimen Labels Abstracted: 69

The O'ahu 'Alauwahio was described by Professor Cabanis in 1850 (Amadon 1950). J. K. Townsend and F. Deppe secured several specimens including the type, during their collecting trips together from 1836 to 1837. Three other specimens, taken by unspecified early collectors, were received by museums in 1842 (1) and 1866 (2).

H. C. Palmer collected three in Hale'au'au Gulch in November 1891. R. C. L. Perkins took the largest series of O'ahu 'Alauwahio, collecting 30 birds in March, April, and May 1893; nine in November and December 1901; three in December and January 1902; and one on an unspecified date. The birds were taken at: Wai'anae Range 1400 feet elevation (2); Leilehua Ranch (1); Kawaiiloa Gulch, 2000 feet elevation (14); "Wailua" (Waialua ?) (12); Waipi'o (1); Hale'au'au Gulch (9); Ko'olau Range (2); and unspecified localities (2).

W. A. Bryan and A. Seale collected 13 specimens in the Wai'anae Range, "Pukaloa cabin/house," during January and February 1901. L. H. Miller took four birds at Leilehua Ranch in April and May 1903. One additional undated specimen was taken by an unknown collector somewhere on O'ahu.

Sixty-nine specimens of the O'ahu 'Alauwahio were found to be distributed in museum collections as follows: AMNH (29); ANSP (2); BMNH (4); CMZ (19); MCZ (4); RMNH (3); SMFT (3); UCLA (4); YPM (1).

Loxops maculatus flammeus

Vernacular Name: Moloka'i Creeper

Hawaiian Name: Kākāwahie

Specimens In Museums: 134

Specimen Labels Abstracted: 134

S. B. Wilson collected three Kākāwahie at Kala'e in Kahanui during his stay on Moloka'i in June 1888, describing this species a year later (Wilson 1889).

H. C. Palmer secured 28 specimens at unspecified localities on Moloka'i from 14 December 1892 to 20 February 1893. Palmer's name is also on the labels of 13 undated skins and on four specimens taken on 20 December 1870; 20 December 1873; 26 December 1880; and 31 December 1899 when he is not known to have been on

Moloka'i. Kākāwahie obtained by Palmer in 1870, 1873, and 1880 may have been secured originally by members of the R. Myer family who were known by Perkins (1903) to collect birds.

Perkins took 27 Kākāwahie in May and June 1893, at least one in September 1896, and four others on unknown dates. In addition, Perkins is credited with eight specimens dated 1902, seven being taken in February. Two skins collected in February 1902 are attributed to H. W. Henshaw. Neither Perkins nor Henshaw are known to have visited Moloka'i in 1902 and it is possible that G. C. Munro or one of the Myer family actually took the specimens. None of these specimens are labeled with locality information.

G. C. Munro collected two birds on 13 November 1906, and 12 others in April, year unspecified, but undoubtedly 1907 when he was known to have taken a series (Munro 1944). No localities are given for Munro's skins.

W. A. Bryan secured 24 specimens from 9 March to 4 June 1907 at Pelekunu (3); "Punalua" (Pu'u Alu = Pu'uali'i ?) (4); Kilohana (9); Moanui (6); unspecified (2).

Six skins without collector or locality data incorporated into collections of New Zealand museums in 1907 were probably collected by Munro who was born in that country.

One hundred thirty-four specimens of Kākāwahie were found to be distributed in museum collections as follows: AMNH (39); AIM (2); BPBM (40); BMNH (17); CMZ (11, incl. 2 syntypes); CU (2 in spirits); ISZZ (2); MCZ (5); MNHN (3); NMNH (1); NMNZ (4); RMNH (2); ROM (4); SM (1); SMFT (1).

Loxops maculatus montanus

Vernacular Name: Lāna'i Creeper

Hawaiian Name: 'Alauwahio

Specimens In Museums: 65

Specimen Labels Abstracted: 65

In late May and June 1888, S. B. Wilson collected five specimens of the Lāna'i 'Alauwahio, including the type (Wilson and Evans 1892), taking two at 3000 feet elevation at Lāna'ihale; two in Waiapāa Gulch; and one at an unspecified locality, describing this form a year later (Wilson 1889).

H. C. Palmer secured 18 birds at unspecified localities, seven in November 1892 and 11 on undesignated dates. In addition, three other specimens attributed to Palmer bear apparent dates of 1803, 1820, and 9 November 1825, long before any collector was known to have visited Lāna'i.

R. C. L. Perkins collected 27 specimens during December 1893, and January, February, and July 1894. Four were taken at Ha'alelepa'akai (peak), or corruptions thereof; one from "Scott Mtns.," an undefined locality; and 22 from undescribed locations.

G. C. Munro obtained eight Lāna'i 'Alauwahio in 1923, 1924, 1927, and 1928, two at Kaiholena Gulch; one at Waiakeakua; one at Lāna'ihale; one at "Papalahoomoe" (?); and three at unspecified places.

In addition to the above 60 specimens, there are four skins that have no information on their labels.

Sixty-five specimens were found to be distributed in museum collections as follows: AMNH (21); BPBM (13); BMNH (8); CMZ (11, incl. 2 pickled); CM (1); ISZZ (1); MCZ (4); MNHN (1); RMNH (1); ROM (3); SMFT (1).

Loxops maculata newtoni

Vernacular Name: Maui Creeper
Hawaiian Name: 'Alauwahio

Specimens In Museums: 78
Specimen Labels Abstracted: 26

O. Finsch was the first to collect the Maui 'Alauwahio, taking a single specimen on 4 July 1879 while staying on the northeast slope of Haleakalā in a house at 5600 feet elevation near Olinda.

H. C. Palmer collected an undetermined number of specimens from 8 July to 13 October 1892. Rothschild (1893) described the form a year later (Amadon 1950).

E. Weiske obtained two 'Alauwahio on Maui in 1894 at an unspecified location, probably near Olinda.

R. C. L. Perkins took 17 birds, nine in April and May 1894 on Haleakalā at 5000 feet elevation, and eight in February 1896 in 'Iao Valley.

H. W. Henshaw collected four Maui 'Alauwahio at Ukulele in June 1901.

L. P. Richards obtained two specimens 0.5 mile northwest of Pu'u'alaea, Haleakalā on 2 December 1950.

Seventy-eight specimens of Maui 'Alauwahio were found to be distributed in museum collections as follows: AMNH (29); BPBM (27); BMNH (9); CMZ (6); MCZ (3); SMFT (2); UCB (2).

Principal repositories having unabridged label information were found to be: AMNH (24); BPBM (27).

Loxops maculatus mana

Vernacular Name: Hawai'i Creeper

Hawaiian Name: (None)

Specimens In Museums: 199

Specimen Labels Abstracted: 199

Possibly no Hawaiian name for the Hawai'i Creeper is known because the Hawaiians did not distinguish it from the Hawai'i 'Amakihi, which it closely resembles.

S. B. Wilson took four specimens at Keauhou (Kona) on 13 June 1887; at Keauhou (Ka'ū) in September 1887; at Mānā and Mānā dairy (Hāmākua) on 12 March 1888, describing the form a year later (Wilson 1889). An additional skin bearing Wilson's name is dated 1911.

H. C. Palmer collected 28 specimens, securing nine from September to December 1891; one on 15 March 1892 at unspecified locations; and 18 in Kona in August 1893. G. C. Munro, Palmer's assistant during this period, collected three in 1891 and 1892, two in Kona and one in Hāmākua.

R. C. L. Perkins collected 18 Creepers in 1892, 1894, and 1896, obtaining two in Kaumana at 2000 feet elevation; eight at 4000 feet elevation in Kona; one at Kīlauea; and seven in unspecified locations. A. Koebele took five birds at Kilauea in September 1896.

H. W. Henshaw secured 114 specimens in 1898, 1899, 1900, and 1902 in 'Ōla'a at 1600 feet elevation (1), 2400 feet elevation (5), 4000 feet elevation (3), and unspecified (37); Kaiwiki (46); Volcano (14); Hilo (1); 'Ōhaiea (houses, Ka'ū) (3); Pāhala (1); Kuaia (near Laupāhoehoe) (1); and unspecified localities (2).

A. Seale secured eight specimens of the Hawai'i Creeper at Kīlauea during 28 March to 11 April 1901. A. M. Walcott took two birds at Kaiwiki on 6 April 1901, and one on 29 March at undesignated places. C. E. Blacow obtained 11 specimens at Horner's Ranch ('Umikoa), Pa'auilo, Hāmākua, from 11 July to 26 August 1903, and one later at Horner's Ranch ('Umikoa) at 6500 feet elevation on 28 December 1903.

P. H. Baldwin secured two specimens, one in Kīpukakulalio, Kapāpala, Ka'ū, 5500 feet elevation on 3 August 1938, and one near Solomon's Waterhole, Keauhou, Ka'ū, on 12 September 1949. L. P. Richards obtained a bird in 'Ōla'a along the Volcano-Kūlani Trail at 3900 feet elevation on 12 October 1950.

One hundred ninety-nine specimens of Hawai'i Creeper were found to be distributed in museum collections as follows: AMNH (41); ANSP (1); BPBM (89); BMNH (13); CAS (2); CMZ (8); CM (2); CU (2); HVNP (1); MCZ (11); MNHN (1); NMNH (11); RMNH (2); SMFT (1); UCB (13, incl. 2 skels.); UCLA (1).

Loxops coccinea caeruleirostris

Vernacular Name: Kaua'i 'Ākepa

Hawaiian Name: 'Akeke'e

Specimens in Museums: 93

Specimen Labels Abstracted: 23

S. B. Wilson collected and later described (Wilson 1889) the 'Akeke'e from four specimens taken at 3000 feet elevation above Makaweli in Waimea District from September to October 1888.

H. C. Palmer obtained about 30 birds in 1891, two being from Kahōluamanu. Localities of the rest were not recorded.

R. C. L. Perkins collected 12 in 1894 and during April, May, and October 1895 at Kahōluamanu (10) and 4000 feet elevation (2).

W. A. Bryan is credited with one 'Akeke'e taken at Kahōluamanu on 19 April 1900.

F. Richardson collected one on the Koai'e Stream about 3250 feet elevation on 21 July 1960.

Ninety-three specimens of the 'Akeke'e were found to be distributed in museum collections as follows: AMNH (23); ANSP (1); BPBM (23, incl. 1 skel.); BMNH (28, incl. 17 pickled); CMZ (7, incl. 1 pickled); MCZ (4); MNHN (2); SM (1); SMFT (3); WSM (1).

Principal repositories having unabstracted label information were found to be: AMNH (21); BPBM (23); BMNH (20); MCZ (4).

Loxops coccineus rufus

Vernacular Name: O'ahu 'Ākepe

Hawaiian Name: 'Akepeu'ie

Specimens In Museums: 17

Specimen Labels Abstracted: 17

A. Bloxam first collected the O'ahu 'Akepeu'ie in 1824 and 1825 during the voyage of the H. M. S. Blonde, taking two specimens which are presently extant in museums, describing this bird in 1826 (Amadon 1950). Rothschild (1900) knew of only five other old specimens, four having been collected by F. Deppe in 1837. Three of Deppe's specimens survive to the present, as do two secured by J. K. Townsend, also in 1837. One skin, dated 1845, probably resulted from the visit of the H. M. S. Sulphur during the period 1836 to 1842.

H. C. Palmer obtained two birds on 24 April 1893, one being from "Wailua dist." (Waialua). S. B. Wilson and R. C. L. Perkins were not successful in collecting the O'ahu 'Akepeu'ie.

Labels from seven specimens contain illegible, fragmentary, or no information on origin, place, or date acquired.

Seventeen specimens were found to be distributed in museum collections as follows: AMNH (4, incl. type); ANSP (3); BMNH (3, incl. co-type); CMZ (1); MCZ (1); MNHN (1); NM (3); ROM (1).

Loxops coccineus ochraceus

Vernacular Name: Maui 'Ākepa

Hawaiian Name: 'Akepeu'ie

Specimens In Museums: 54

Specimen Labels Abstracted: 54

Dole (1879) was the first to write about the Maui 'Akepeu'ie, citing it in his list of Hawaiian birds. Finsch (1880) remarked on the appearance of both adult and young from specimens which were apparently lost. The Maui 'Akepa was described by L. W. Rothschild in 1893 (Amadon 1950).

H. C. Palmer was the first collector to obtain an adequate series of specimens, securing 15 during the period 3 to 15 August 1892, and five from 20 September to 30 October 1892, all in unspecified localities. One additional specimen taken on 10 October 1891 at Olinda is attributed to Palmer, but Palmer was on Kaua'i in October 1891, according to his diary (Rothschild 1893).

R. C. L. Perkins took 18 birds from March to May 1894, and eight during May and October 1896. The date on one specimen, and locality data on all, are missing.

E. Weiske secured two specimens on Haleakalā, 6000 feet elevation in March 1894.

Two specimens, probably taken by H. W. Henshaw, were collected at "Ukelele" (Ukulele) on 10 June 1900, and 15 June 1901.

Dates, localities, and names of collectors are missing from three additional specimens.

Fifty-four specimens of Maui 'Akepeu'ie were found to be distributed in museum collections as follows: AMNH (24); ANSP (1); BMNH (12); CAS (1); CU (11); MCZ (2); RMNH (1); SMFT (2).

Loxops coccineus coccineus

Vernacular Name: Hawai'i 'Ākepa

Hawaiian Name: 'Akakane

Specimens In Museums: 215

Specimen Labels Abstracted: 215

According to Wilson and Evans (1890), 'Akakane were obtained and/or variously described from Captain James Cook's discovery visit during 1778 to 1779, voyages of the H. M. S. Blonde in 1825 and H. M. S. Sulphur in 1837, and from collections of J. D. Mills (sometime during 1851 to 1887, Manning 1978). T. Ballieu also took four early specimens at unspecified localities, in 1877. The 'Akakane was described by J. G. Gmelin in 1789 (Stresemann 1950).

Wilson and Evans (1890) state that Wilson collected four birds, two at Pu'u Lehua (Pulehua Ranch) in June 1887; one at Keauhou (Ka'ū District) in September 1888; and one at Pu'ukapu near Waimea (village) in January 1888. Not mentioned by Wilson and Evans (1890) are two specimens credited to him from Kona District in 1896. Two others with the same date but without collector's name or locality, were presumably taken in Kona also.

H. C. Palmer secured 33 'Akakane, all in unspecified localities from 25 September to 9 December 1891, and 10 from 14 to 19 March 1892. G. C. Munro, Palmer's assistant, obtained two specimens during this period, one from Kona District and one from Kohala District.

R. C. L. Perkins collected a total of 32 specimens in 1892, 1894, 1895, and 1896 at Pu'u Lehua (Pulehua Ranch), 4000 feet elevation (6); Kīlauea (6); Ka'ū District (8); above "Amaulu" ('Amauulu), 2000 feet elevation (8); Hilo (1); Kaumana, Hilo, 2000 feet elevation (2); and Kona District, 4000 feet elevation (1).

H. W. Henshaw collected 73 'Akakane at various locations during the period 1895 to 1902 at Kaiwiki (46); Volcano (6); Pāhala (2); 'Ōla'a (9), including two from 2400 feet elevation; Hilo (2); Hilo above "Amaulu" ('Amauulu), 2000 feet elevation (2); Baker's Ranch (?), about 6000 feet elevation (1); 'Ainapō (5).

A. Koebele took 18 specimens at Kīlauea in September 1896. One other specimen dated September 1896, but without collector's name or locality, may have been taken by Koebele although Perkins was collecting in Ka'ū District during the same period and may have taken it.

A. Seale and A. M. Walcott secured two specimens each at Kīlauea from 27 March to 2 April 1901. M. L. Walton is credited with seven specimens, two from Pāhala on 14 May 1902, and five from unspecified localities and on unknown dates. One specimen

without collector's name obtained from "Horner's Ranch" ('Umikoa), 7500 feet elevation, on 23 April 1903, was probably taken by L. H. Miller.

Names of collectors are missing from 22 specimens. A bird taken "2 mi. w. Solomon's waterhole, Keauhou, Kau, 6750'," on 24 October 1948 was no doubt secured by P. H. Baldwin. Another from "s. Shangrila, Puu Waawaa Ranch, Hualalai, 4500'," on 28 September 1950 was probably taken by L. P. Richards. A third taken on 2 February 1902 at "Ainako" ('Ainapō) was possibly one of Henshaw's. Three other specimens, without collector or dates on labels, are marked "Hilo" (2) and "Kona" (1). Thirteen specimens carry labels with little or no information.

Two hundred fifteen specimens of 'Akakane were found to be distributed in museum collections as follows: AMNH (51); BPBM (71); BMNH (23); CAS (2); CMZ (16); CM (2); CU (2); HVNP (1); LACM (7); MCZ (12); MNHN (4); NMNH (10); RMNH (4); SM (2); SMFT (2); UCB (3); UMAA (2); YPM (1).

Melamprosops phaeosoma

Vernacular Name: Po'ouli
Hawaiian Name: Po'ouli

Specimens In Museums: 2
Specimen Labels Abstracted: 2

Casey and Jacobi (1974) described and named the Po'ouli from two specimens collected from a population they found in the upper elevations of Ko'olau forest on the northeastern slopes of Haleakalā, Maui. No Hawaiian name was previously known for this bird, a new genus and species of drepanidid. The holotype is deposited in the Bernice Pauahi Bishop Museum, Honolulu. The paratype is in the American Museum of Natural History, New York.

Hemignathus procerus

Vernacular Name: Kaua'i 'Akialoa
Hawaiian Name: 'Akialoa

Specimens In Museums: 102
Specimen Labels Abstracted: 102

The Kaua'i 'Akialoa was described by Professor Cabanis in 1889 (Bryan and Greenway 1944), the prior description by Stejneger (1888) from three specimens collected by V. Knudsen not being recognized.

S. B. Wilson took 13 specimens, six in 1888, one in 1891, two in 1892, and four during unspecified years. Specimens with Wilson's name on the label and dated 1891 and 1892 taken by someone else as Wilson was then in England describing specimens taken in 1887 and 1888 (Wilson and Evans 1899).

Thirty-three specimens of the Kaua'i 'Akialoa were taken in undesignated localities by H. C. Palmer, though dates of only 26 agree with periods of known collecting activity by Palmer in 1891 and 1893. Palmer's assistant, G. C. Munro, took one specimen at Kahōluamanu in 1891. Munro also collected three birds in Makaweli and four at unspecified locations in 1898. Two additional specimens from Makaweli were secured on 27 and 28 November 1893 by an unknown collector with the initial "G. R." (? Gay and Robinson).

R. C. L. Perkins collected 21 Kaua'i 'Akialoa in 1894, 1895, and 1897 at Kahōluamanu (12); Halemanu (1); 4000 feet elevation (3); 2500 feet elevation (3); and unspecified localities (2). Two specimens taken in October coincide with four others collected that month by Perkins at Kahōluamanu and were probably taken by him, although the collector's name is unspecified.

H. W. Henshaw is credited with two specimens which were probably taken by someone else. One example was secured at Makaweli on 5 February and one at an unspecified locality on 11 February 1899. Henshaw is not known from anyone's writings to have visited Kaua'i.

V. Knudsen, a resident collector of Kaua'i birds in the late 1800's, took three 'Akialoa but did not note date or locality. A. F. Judd took one bird at Pu'uuka-Pele at an unknown date, probably around 1900.

A. Seale, no doubt in company with W. A. Bryan, secured four specimens at an unspecified locality during 19 to 30 April 1900. One other specimen was taken during this period by an undesignated collector.

No further specimens appear to have been collected until 20 July 1960 when F. Richardson took one about 1.5 miles southeast of the Koai'e Cabin.

There are eight other specimens with incomplete data, one from "Kaholuamanu," another marked "1898"--(the date received by the museum), and a third marked only "June 5."

One hundred two specimens of the Kaua'i 'Akialoa were found to be distributed in museum collections as follows: AMNH (25); AIM (1); ANSP (1); BPBM (26); BMNH (13, incl. 1 in spirits); CMZ (7, incl. 2 syntypes and 1 in spirits); CM (2); MCZ (4); MNHN (2); NMNH (8, incl. 2 skels., 3 skulls); ROM (7); RMNH (4); SMFT (1); WSM (1).

Hemignathus obscurus ellisianus

Vernacular Name: O'ahu 'Akialoa

Hawaiian Name: 'Akialoa

Specimens In Museums : 0

Specimen Labels Abstracted: 0

H. Lichtenstein (1838) stated that (F.) Deppe collected the O'ahu 'Akialoa "in allen den verschiedenen Kleiden" (in all their different plumages) in January (1837). Gray apparently described the O'ahu 'Akialoa from one of these examples (Amadon 1950). No evidence was found that this species was ever collected or seen again and all of Deppe's specimens seem to have disappeared. None of the museums surveyed reported having the O'ahu 'Akialoa in their collections.

Hemignathus obscurus lanaiensis

Vernacular Name: Lāna'i 'Akialoa

Hawaiian Name: 'Akialoa

Specimens In Museums: 2

Specimen Labels Abstracted: 2

Rothschild (1893), who described this bird, states that H. C. Palmer collected three specimens of the Lāna'i 'Akialoa, but only the type and one other skin were reported in museum collections. The specimens, taken on 21 and 22 November 1892, are in the American Museum of Natural History, New York.

Hemignathus obscurus obscurus

Vernacular Name: Hawai'i 'Akialoa

Hawaiian Name: 'Akialoa

Specimens In Museums: 106

Specimen Labels Abstracted: 106

The Hawai'i 'Akialoa was described by J. G. Gmelin in 1788 from two specimens collected in 1779 during Captain James Cook's stay at Kealahue Bay (Stresemann 1950). Peale (1848) reported that specimens were obtained by the U. S. Exploring Expedition in 1840 to 1841, but he did not mention the number taken or locality. J. D. Mills added two Hawai'i 'Akialoa to his collection in Hilo sometime after 1851, but did not record date or district of collection. T. Ballieu secured one specimen in 1876, probably at Pu'u Lehua (Pulehua Ranch) in Kona. The existence of the specimens obtained during Cook's visit and all but one taken by the U. S. Exploring Expedition appears now to be conjectural.

S. B. Wilson collected five birds, one being taken at 'Ōla'a in September 1887, one at "punalala" (Punalulu ?) in February 1888, and one at Waimea on 2 March 1888. One additional bird from "Mana" (former Parker Ranch Hdqs.) can also no doubt be credited to Wilson.

H. C. Palmer collected 16 Hawai'i 'Akialoa in late 1891 and early 1892, but only one (3 October 1891) recorded a locality (Waimea) on its label. G. C. Munro, Palmer's assistant during this period, took two specimens in Kona, one on 1 October and one on 11 November 1891.

R. C. L. Perkins obtained 17 specimens during visits to Hawai'i in 1892, 1894, 1895, and 1896. Birds were collected in Kona District, 3000 feet elevation (1) and 4000 feet elevation (4); Mauna Loa ca. 2500 feet elevation (1) and 4000 feet elevation (5); Pu'u Lehua (Pulehua Ranch), 4000 feet elevation (2); Kīlauea (1); Hilo (1); and Ka'ū District (2). Three other specimens taken in Kona District at 2000 feet and 3000 feet elevation, and in Ka'ū District can probably be credited to Perkins also.

A. Koebele secured three Hawai'i 'Akialoa at Kīlauea in September 1896.

Forty-three specimens were collected in various places by H. W. Henshaw during 1898 to 1902 at Kaumana (15); Kaiwīkī (12); 'Ōla'a (9); 'Ōla'a, 1600 feet elevation (1); "Kapahula" (Kapāpala ?, Ka'ū) (2); Honomū (1); Volcano (1); and in unspecified localities (2).

C. E. Blacow collected three specimens at Horner's Ranch House ('Umikoa), Pa'auilo, Hāmākua District, in September 1903.

D. B. Kuhuo took one specimen on 16 June 1901 in an unspecified locality. Labels on some 10 other specimens are without names of collectors, dates, or localities.

One hundred six specimens of the Hawai'i 'Akialoa were found to be distributed in museum collections as follows: AM (1); AMNH (18); ANSP (1); BPBM (34); BMNH (9); CAS (4); CMZ (6, incl. 1 mtd.); CM (2); LACM (3 mtd.); MCZ (11); MNHN (1); NM (1); NMNH (5); RMNH (2); ROM (2); SMFT (2); UCB (2); UCLA (1); YPM (1).

Hemignathus lucidus hanapepe

Vernacular Name: Kaua'i Nuku-pu'u

Hawaiian Name: Nuku-pu'u

Specimens In Museums: 34

Specimen Labels Abstracted: 34

S. B. Wilson collected the first five specimens of the Kaua'i Nuku-pu'u, including the type, "whilst staying at a little mountain-cottage belonging to the Sinclair family in the higher forest-region of Kauai, at an altitude of some 3000 feet" (Kahōluamanu?). Wilson (1889) described the Kaua'i Nuku-pu'u and compared his collecting success with H. C. Palmer who is credited with 10 specimens (Wilson and Evans 1892). Wilson's name now appears on labels of only three specimens, all dated September 1888. One additional specimen bearing Wilson's name is labeled 1891, after Wilson had returned to England. Three of four examples without information may have been collected by Wilson, who was not always systematic in labeling his specimens. None of the labels on Wilson's specimens indicate the locality in which they were collected.

H. C. Palmer is known to have taken seven specimens and three more may be credited to him by reason of dates which correspond to his presence on Kaua'i in 1891 and 1893. The collection locality of only one specimen is known, "Kuluamani," probably a corruption of Kahōluamanu.

R. C. L. Perkins secured 12 Kaua'i Nuku-pu'u in May 1894 (1), and October 1895 (11). The former is from 4000 feet elevation and the latter 11 are from "Kaholuamano" (Kahōluamanu).

G. C. Munro obtained two specimens on 5 June 1899 at Makaweli. One additional specimen which may have been taken by Munro in February 1897 is also from Makaweli.

Four specimens of the Kaua'i Nuku-pu'u are without any collection data.

Thirty-four specimens of the Kaua'i Nuku-pu'u were found to be distributed in museum collections as follows: AMNH (9); ANSP (1); BPBM (5, incl. 1 mtd.); BMNH (11, incl. 2 unsexed adults in spirits); CMZ (5, incl. 2 syntypes); MCZ (2); ROM (1).

Hemignathus lucidus lucidus

Vernacular Name: O'ahu Nuku-pu'u

Hawaiian Name: Nuku-pu'u

Specimens In Museums: 9

Specimen Labels Abstracted: 9

The O'ahu Nuku-pu'u is represented by nine very old specimens. F. Deppe and J. K. Townsend evidently collected at least six specimens, including the type, at unspecified locations in 1837 and 1838. Deppe is credited with three specimens, two taken in January 1837 and one marked "1838". Two specimens are attributed to Townsend.

Lichtenstein described this bird in 1839 (Amadon 1950). Collector of the type specimen is not designated on the label. One other old skin was evidently obtained (in 1837) during the voyage of the Sulphur, according to Wilson and Evans (1894). No specimens were known to have been secured for certain after the voyage of the Danaide in 1843.

Nine specimens of the O'ahu Nuku-pu'u were found to be distributed in museum collections as follows: AMNH (1); BMNH (1); CMZ (2); MCZ (type); NM (2); RMNH (1); SM (1).

Hemignathus lucidus affinus

Vernacular Name: Maui Nuku-pu'u

Hawaiian Name: Nuku-pu'u

Specimens In Museums: 36

Specimen Labels Abstracted: 36

H. C. Palmer collected the type and 12 other specimens of Maui Nuku-pu'u in 1892. Rothschild (1893) provided measurements of that number, and description of the species that same year. Palmer did not list locality information on specimen labels of those he took.

R. C. L. Perkins collected 20 birds during visits in 1894 and 1896, securing 11 at 5000 feet elevation on Haleakalā. E. Weiske obtained one specimen on Haleakalā at 6000 feet elevation in 1894.

There are two specimens without any collection data and one additional example was out on loan and unavailable for examination.

Thirty-six specimens of the Maui Nuku-pu'u were found to be distributed in museum collections as follows: AMNH (12, incl. type); ANSP (1); BPBM (4); BMNH (8); CMZ (6); MCZ (2); ROM (1 co-type); RMNH (1); SMFT (1).

Hemignathus wilsoni

Vernacular Name: 'Akiapōlā'au

Hawaiian Name: 'Akiapōlā'au

Specimens In Museums: 192

Specimen Labels Abstracted: 192

According to Wilson and Evans (1892), the 'Akiapōlā'au was not known to science until about 1839 when the first specimen was purchased for 25 francs from a dealer in Paris and described by Lafresnaye. Amadon (1950) and Bryan and Greenway (1944), however, recognize the description of Rothschild (1893). Only eight specimens, all taken by unknown collectors on Hawai'i where the species is endemic, seem to have survived the early period. Collection localities of these early specimens are unknown and the only recorded date is 1877 for one specimen.

Later, Wilson collected 15 'Akiapōlā'au from July 1887 to March 1888 at "Puwawaa" (Pu'uwa'awa'a) (1); Mānā (1); Mānā dairy (3); Kona District (2); and unknown localities (8).

H. C. Palmer obtained 30 specimens at undesignated localities in 1891 and 1892. His assistant, G. C. Munro, took three additional skins during this period in South Kona and Hāmākua Districts.

R. C. L. Perkins collected 30 specimens of 'Akiapōlā'au during visits to Hawai'i in 1892, 1894, 1895, and 1896. Most specimens were taken in Ka'ū District (9), and in Kona District at 4000 feet elevation (4) and unspecified elevations (6). Five 'Akiapōlā'au were obtained on Pulehua Ranch, three being taken at 4000 feet elevation. Two specimens were collected near Hilo at 2000 feet elevation, one in December 1895 and the other in January 1896 above Amaulu ('Amauulu). Perkins is credited with two specimens from Mauna Loa, one being taken at 8000 feet elevation (elevation probably confused), and two others for which collection information is lost or erroneous.

H. W. Henshaw collected 74 specimens of 'Akiapōlā'au in various locations from 1898 to 1902 at Kaiwiki (32); Kaumana, 2000 feet elevation (1); 'Ōla'a (9); 'Ōla'a, 1800 feet elevation (3); 'Ōla'a, 2400 feet elevation (10); Volcano (7); Volcano, 4500 feet elevation (1); Pāhala (1); 'Ōhaikea (houses), Ka'ū District (1); "Kapahulu" (Kapāpala ?) (1); and unspecified localities (8).

Three other collectors obtained small numbers of birds shortly before or after 1900. A. Koebele secured eight specimens at Kīlauea in September 1896. A. M. Walcott obtained two examples at Kīlauea on 2 April, and four at Kaiwiki on 7 and 8 April 1901. C. E. Blacow collected four specimens in 1903 and 1905, two from "Horner's Ranch" ('Umikoa), Hāmākua District, the label of one being inscribed "7300 ft." and the other "7500 ft.".

P. H. Baldwin collected two specimens 2 miles west of Solomon's Waterhole, Keauhou, Ka'ū, at 6700 and 6750 feet elevation on 24 October 1948. Two other specimens without name of

collector, but probably taken by Baldwin, were secured on 24 and 25 August 1938 at Kīpukakulalio, Kapāpala, Ka'ū.

L. P. Richards collected two specimens of 'Akiapōlā'au, one on 13 October 1950 at 3900 feet elevation along the trail to Pu'u Kū'lanī, Upper 'Ōla'a Forest Reserve, and the other on 14 December 1950 at Hopuwai, Keanakolu Trail, Mauna Kea, N. Hilo District, at 6425 feet elevation.

Eight additional specimens are without collectors' names. Labels of two are inscribed "circa 1902"; two indicate collection in 1897 (one in June); one was secured prior to 1891; one was collected at Ainapo ('Ainapō), a collecting locality of H. W. Henshaw; and two have no data.

One hundred ninety-two specimens of the 'Akiapōlā'au were found to be distributed in museum collections as follows: AMNH (29, incl. type); ANSP (1); BPBM (64); BMNH (22); CMZ (10); CM (2); CU (1); HVNP (2); ISZZ (2); LACM (4, incl. 2 mtd.); MCZ (15); MNHN (6); NMNH (10); RMNH (4, incl. 1 skel.); ROM (6); SMFT (3); UCB (7); UCLA (2); YPM (2).

Pseudonestor xanthophrys

Vernacular Name: Maui Parrotbill
Hawaiian Name: (None)

Specimens In Museums: 34
Specimen Labels Abstracted: 34

Rothschild (1900) described the Maui Parrotbill in 1893. H. C. Palmer, Rothschild's collector, obtained only eight specimens, seven of which were obtained in August 1892 (one being undated), all in undesignated localities.

R. C. L. Perkins took 17 specimens during his visits to Maui in 1894 and 1896. Two of four examples obtained in March and April 1894 were secured at 5000 feet elevation, and a third is from an undesignated elevation on Haleakalā. The undated fourth specimen was collected in an unspecified location. Six of the remaining 13 specimens obtained by Perkins (in May and October 1896) were collected at 5000 feet elevation while the remaining seven were taken at undesignated elevations on Haleakalā.

H. W. Henshaw collected six Maui Parrotbills in June 1901, two being taken from Olinda, three from Ukulele, and one from an unknown locality.

Three specimens are without any collection information.

Thirty-four specimens of the Maui Parrotbill were found to be distributed in museum collections as follows: AMNH (11, incl. type); BPBM (6, incl. 1 mtd.); BMNH (8); CMZ (5); MCZ (2); NMNH (2).

Psittirostra psittacea

Vernacular Name: 'Ō'ū

Hawaiian Name: 'Ō'ū

Specimens In Museums: 323

Specimen Labels Abstracted: 323

The first specimen of 'Ō'ū was collected during the voyage of Captain James Cook and described by J. G. Gmelin in 1789 (Stresemann 1950). According to Wilson and Evans (1891) and Rothschild (1900), this species subsequently acquired a long and somewhat complicated synonymy. Rothschild considered the O'ahu form a different species but Perkins (1903) and Amadon (1950) favor a monotypic treatment, which is followed here.

Presumably because of the early abundance and widespread distribution of 'Ō'ū on all the forested islands during the early historic period, as well as its attractive plumage and unique bill, this bird was taken by most of the exploratory ornithologists.

Kaua'i

Wilson secured five specimens in August and September 1888, all in unrecorded localities, except one from 4000 feet elevation.

Palmer collected 20 'Ō'ū, 19 in January 1891, at undesignated places. Two specimens taken by Munro, Palmer's assistant, and one taken in April 1898, likewise do not specify names of places obtained.

Perkins took two birds in October 1895 at Kahōluamanu, the only locality specified on labels of any of the specimens.

Other collectors of 'Ō'ū on Kaua'i included V. Knudsen (2); Collett (1); G. and R. (probably F. Gay and A. Robinson) (1); G. B. (?) on 26 January 1893 (1); and A. Seale on 30 April 1900 (1).

O'ahu

At least eight 'Ō'ū were taken on O'ahu by F. Deppe and J. K. Townsend (3) in 1837 and/or 1838; Behn (4) in 1846; and H. Mann (1) in 1869. In addition, many of the 31 early specimens labeled "Sandwich Isls." or equivalent, or undesignated as to island of collection, can probably be attributed to O'ahu. The last 'Ō'ū specimens which can be determined with certainty to have been collected on O'ahu were taken by Behn in 1846.

Moloka'i

Wilson took one 'Ō'ū at an undisclosed location in June 1888. Palmer and Perkins took six and three specimens, respectively, in 1893, but did not record localities. M. J. Flood secured four of this species at an unknown location in February 1895.

W. A. Bryan collected 15 examples during April, May, and June 1907 at Kilohana (4); "Puualu" (Pu'u Alu/Pu'u ali'i) (2); Hālawā (2); Moanui (2); Pelekunu Trail (1); "Pelekuna" (Pelekunu Gulch) (1); Brown's Ranch (Pu'u o Hoku) (1); Wailau (valley) (1); and unspecified localities (1).

Munro collected four in undesignated localities in April and June 1907.

Lāna'i

Wilson collected three 'Ō'ū in June 1888, one from "near ranch." Palmer obtained three examples in November 1892 and Perkins secured three more in 1894, collection localities of all six examples being unknown. G. C. Munro took one at Kaiholena Gulch on 10 November 1923; three at unspecified locations that same year (two in November); and one on 28 February 1927 at Lāna'ihale. The label of one additional specimen contains no information except its island of origin, Lāna'i.

Maui

Palmer collected eight 'Ō'ū at unspecified localities on Maui during August and September 1892. Henshaw secured seven specimens during 6 to 21 June 1901, four at Olinda and three at "Ukelele" (Ukulele).

Hawai'i

S. B. Wilson collected 27 'Ō'ū in 1887 and 1888 at Ka'awaloha (3); 'Ōla'a (1); Pā'auhau (1); Kona (4); and unspecified localities (18).

H. C. Palmer took 30 in January, February, and September 1891, and November 1892, all in undesignated places.

Perkins evidently considered collecting 'Ō'ū a poor use of his time on Hawai'i as he took only a single specimen (July 1895, Ka'ū) during his several visits.

H. W. Henshaw obtained 105 specimens on intermittent collecting trips from 1898 to 1901 at Kaiwiki (8); Kaumana (13); Kea'au (6); Honomū (3); "Kuaia" (near Laupāhoehoe) (3); and in 'Ōla'a (72).

A. Koebele obtained one 'Ō'ū during February 1894 in Kona District and E. Weiske took two that same month, all three in unspecified localities. B. Arnold secured a specimen somewhere

in Ka'ū District on 11 July 1898. J. Parker collected another example on Hawai'i at an undesignated time and place. R. C. McGregor took a bird on "Mt. of Hawaii" on 16 January 1940. Five other specimens, all without data, were also obtained.

Three hundred twenty-three specimens of the 'Ō'ū were found to be distributed in museum collections as follows: AMNH (55); AIM (1); ANSP (8); BPBM (77); BMNH (33); CAS (2); CMZ (11, incl. 1 mtd.); CM (3); ISZZ (5); LACM (3 mtd.); MCZ (25); MNHN (9); NM (3); NMNH (56, incl. 1 skel.); RMNH (6, incl. 2 skels.); ROM (11); SM (3); SMFT (3); UCB (3); UMAA (2); YPM (4).

Psittirostra cantans cantans

Vernacular Name: Laysan Finch

Hawaiian Name: (None)

Specimens In Museums: 217

Specimen Labels Abstracted: 217

Banks and Laybourne (1977) unravelled the heretofor confused origin of specimens and description of the Laysan Finch. S. B. Wilson obtained one specimen in 1890 (Banks and Laybourne, 1977), this example apparently being accessioned by a European museum in 1894. H. C. Palmer collected 20 examples in June 1891 on Laysan Island (Rothschild 1893). G. C. Munro, Palmer's assistant, took two additional specimens during this visit.

In October and November 1894, and September 1895, five specimens (two alive) were evidently brought to Honolulu where R. C. L. Perkins secured one and (? O. D.) Flood obtained three.

H. H. Schauinsland collected 23 during his March to September 1896 visit to Laysan Island.

H. W. Henshaw obtained two birds, presumably from some brought to Honolulu. One specimen is dated 18 August 1901 but the other specimen is undated.

W. K. Fisher and J. O. Snyder took 12 skins and five eggs of the Laysan Finch during the visit of the U. S. S. Albatross in May 1902. W. A. Bryan collected 24 specimens in May and June 1903.

A. Seale and other unknown collectors are credited with preserving three other specimens in 1903, 1904, and 1909, all evidently from birds brought to Honolulu at some unknown time. One undesignated collector obtained five specimens on 16 and 17 May 1907.

P. Bartsch collected two specimens from Eastern Island, Midway Atoll, on 7 November 1907 where the Laysan Finch had been transplanted earlier.

H. R. Dill collected six specimens on Laysan during 11 to 30 May 1911. G. Willett secured 32 examples on Laysan from 26 December 1912 until 1 March 1913, although the label of one does not bear his name.

A. Wetmore preserved 17 skins and three eggs from Laysan, and 12 skins from Eastern and Sand Islands, Midway Atoll, in 1923.

Three specimens were taken on Laysan by an undesignated collector on 12 December 1936 during the Crocker Pacific Expedition.

A. S. Leopold collected three on Laysan on 10 September 1961. Skins were taken in "recent years" by the U. S. Fish and Wildlife Service.

There are nine specimens having little or no information on locality and date of collection, three being inscribed with the name of L. A. Fuertes and one credited to W. T. Brigham. Twelve specimens, presumably in addition to those cited above, were on loan and not available for consideration here.

Two hundred seventeen specimens of the Laysan Finch were found to be distributed in museum collections as follows: AMNH (39, incl. type); ANSP (3); BPBM (31); BMNH (9, incl. 5 in spirits); CMZ (1); CM (1); CU (4); DMNH (2); LACM (1); MCZ (9); NMNH (67, incl. 8 eggs); RMNH (3); ROM (10); SM (1); SMFT (1); UCB (3, incl. 2 skels.); UCLA (2); UK (1); UMAA (28, incl. 14 skels.); YPM (1).

Psittirostra cantans ultima

Vernacular Name: Nihoa Finch

Hawaiian Name: (None)

Specimens In Museums: 73

Specimen Labels Abstracted: 73

In February and March 1916, W. H. Munter collected the type and three paratypes of the Nihoa Finch described by Bryan (1917).

A. Wetmore secured 52 additional birds during 11 to 15 June 1923.

Ten specimens were taken in August 1940 on the Vanderbilt Expedition.

L. P. Richards secured seven on 14 July 1951.

Seventy-three specimens of the Nihoa Finch were found to be distributed in museum collections as follows: AMNH (1); ANSP (9); BPBM (9); CAS (4); LACM (4, incl. type and 3 paratypes); MCZ (3); NMNH (40, incl. 2 skels.); UCB (3, incl. 2 skels.).

Psittirostra bailleui

Vernacular Name: Palila
 Hawaiian Name: Palila

Specimens In Museums: 101
 Specimen Labels Abstracted: 101

Two specimens of Palila obtained by T. Ballieu in 1876 were described by Oustalet in 1877 (Wilson and Evans 1890). The type and seven other examples apparently secured by Ballieu on what is now Pulehua Ranch are still extant in museum collections.

S. B. Wilson collected a series of 23 specimens, 13 in June and July 1887; two in March 1888; and eight in unspecified months during that period. Wilson secured 10 more specimens in June 1896. None of the labels on Wilson's specimens indicate where they were taken.

H. C. Palmer secured 11 specimens at unspecified localities during September and October 1891. G. C. Munro, Palmer's assistant at the time, took one additional example during this period and another on 2 February 1892 in Hamakua.

The label of one specimen reads, "C. H. Townsend" . . . "USS Albatross" . . . "received in Honolulu November 1891."

R. C. L. Perkins evidently secured only four Palila, all from Kona, during his several visits to Hawai'i, two in August 1894 at 5000 feet and 4000 feet elevation, and two in March 1896 at 4000 feet elevation.

Five of seven Palila specimens collected by L. H. Miller in 1902 are accounted for, all taken on Horner's Ranch ('Umikoa), "Paילו" (Pa'ailo), 8200 feet elevation.

H. W. Henshaw collected 23 Palila somewhere in Hāmākua District in April 1903. Perhaps the locale was on or near Horner's Ranch ('Umikoa) where Miller collected a year earlier, and C. E. Blacow secured six specimens in July, August, September, and December 1903, four at 8000 feet elevation, one at 7800 feet elevation, and one at 7000 feet elevation.

P. H. Baldwin collected a Palila at Pu'u Lā'au, Ka'ohe, 7750 feet elevation on 6 November 1948. L. P. Richards obtained two examples between Pu'u Kanakaleonui and Hopuwai, 8000 feet elevation in December 1950.

There are, in addition, four other specimens without collectors' names or dates on the labels, but one is known to have been taken in Kona District.

One hundred one specimens of the Palila were found to be distributed in museum collections as follows: AMNH (21); ANSP (1); BPBM (18, incl. 1 mtd.); BMNH (12); CMZ (8); CM (2); ISZZ (1); LACM (1); MCZ (5); MNHN (7, incl. type and 3 in alcohol); NMNH (5); RMNH (4, incl. 2 skels.); ROM (1); SMFT (2); UCB (10); UCLA (2); YPM (1).

Psittirostra palmeri

Vernacular Name: Greater Koa Finch
 Hawaiian Name: (None)

Specimens In Museum: 59
 Specimen Labels Abstracted: 59

H. C. Palmer collected 20 Greater Koa finches during September, October, and November 1891, and six during March and June 1892, all in unspecified localities. Rothschild (1892b) described one specimen taken at 3000 feet elevation a year later.

R. C. L. Perkins secured 14 birds in June, July, and September 1892, and 17 in March 1896. Specimens taken in 1892 are from "Nahina" (Nāhuina), ca. 4000 feet elevation (1); "near the dairy at Nāhuina," ca. 4000 feet elevation (1); Mauna Loa, Kona District, 4000 feet elevation; or some combination of the three places (12). All of Perkins' 17 specimens taken in 1896 are from Kona District, 3000 feet elevation, with no mention of a specific locality on the labels.

One specimen had no collection data and another example, being on loan, was unavailable for examination.

Fifty-nine specimens of the Greater Koa Finch were found to be distributed in museum collections as follows: AMNH (17, incl. type); ANSP (1); BPBM (5); BMNH (9); CMZ (17, incl. 1 mtd.); MCZ (2); MNHN (2); NMNH (1); ROM (5, incl. 2 co-types and topo-type).

Psittirostra flaviceps

Vernacular Name: Lesser Koa Finch
 Hawaiian Name: (None)

Specimens In Museums: 8
 Specimen Labels Abstracted: 8

Palmer took eight specimens of the Lesser Koa Finch during October 1891 at an undesignated location in Kona District. Rothschild (1892b) described this species a year later. Rothschild (1900) stated that specimens were obtained "at the same places" where the Greater Koa finch (*P. palmeri*) was first collected but mentioned no names.

Eight specimens of the Lesser Koa Finch were found to be distributed in museum collections as follows: AMNH (6, incl. type); BMNH (2).

Psittirostra kona

Vernacular Name: Grosbeak Finch
 Hawaiian Name: (None)

Specimens In Museums: 48
 Specimen Labels Abstracted: 48

S. B. Wilson described the Grosbeak Finch in 1888 (Amadon 1950) from a single specimen he collected on 21 June 1887 at 5000 feet elevation in Keauhou, in the Hawaiian district of North Kona.

H. C. Palmer took 24 examples of the Grosbeak Finch during September and October 1891, the label of one specifying only Kona District. G. C. Munro, Palmer's assistant during this period, took one additional specimen in an undesignated locality.

R. C. L. Perkins collected 21 specimens from June to September 1892 on Mauna Loa, Kona District, 4000 feet elevation (3); Kona District, 4000 feet elevation (5); Mauna Loa, 4000 feet elevation (1); Pulehua Ranch, 4000 feet elevation (11); and unspecified locality (1).

The label of one Grosbeak Finch does not contain any information on collector, locality, or date taken.

Forty-eight specimens of the Grosbeak Finch were found to be distributed in museum collections as follows: AMNH (15); BPBM (5, incl. 1 mtd.); BMNH (10); CMZ (5, incl. holotype, mtd.); MCZ (3); MNHN (2); NMNH (1); RMNH (2); ROM (4); SMFT (1).

Himatione sanguinea freethii

Vernacular Name: Laysan Honeycreeper
 Hawaiian Name: (None)

Specimens In Museums: 105
 Specimen Labels Abstracted: 105

H. C. Palmer collected the type and eight other specimens of the Laysan Honeycreeper on Laysan Island during June 1891. G. C. Munro, Palmer's assistant, took one additional specimen. Rothschild (1892b) described the Laysan Honeycreeper a year later.

H. H. Schauinsland collected 12 birds during June, July, August, and September 1896. Two other specimens taken by an undesignated collector and marked "pre-1900" may also have been taken by Schauinsland.

W. K. Fisher secured 13 specimens during the May 1902 visit of the Albatross Expedition. A skin purchased from Paul Bomke about 1902 may have originated from this voyage also.

W. A. Bryan obtained 23 specimens on his visit to Laysan during April and May 1903. Two additional specimens, taken on 12 and 13 May 1904, were secured by an undesignated collector.

M. Schlemmer took nine birds during April and June 1907 and preserved two undated eggs, probably during the same period.

H. R. Dill secured five specimens of Laysan Honeycreepers during May 1911.

G. Willett took 24 Laysan Honeycreepers during January and February 1913. A. M. Bailey obtained one bird during the same visit. There is also one specimen without any information on the label.

One hundred five specimens of the Laysan Honeycreeper were found to be distributed in museum collections as follows: AMNH (20, incl. type); ANSP (1); BPBM (21); BMNH (3); CAS (7); CMZ (1); CM (1); DMNH (2); FMNH (2); MCZ (10); MNHN (1); NMNH (21); ROM (5); UCLA (1); UMAA (8); YPM (1); ZFMK (1).

Himatione sanguinea sanguinea

Vernacular Name: 'Apapane

Hawaiian Name: 'Apapane

Specimens In Museums: 593

Specimen Labels Abstracted: 241

The 'Apapane was collected during the voyage of Captain James Cook and described in 1788 by J. G. Gmelin (Stresemann 1950). Being common and ranging widely over all six forested islands, the 'Apapane was obtained by many of the naturalists of the exploratory period, including A. Bloxam, F. Deppe, J. K. Townsend, and members of the Challenger Expedition.

On Hawai'i, S. B. Wilson collected 15 birds in 1887 and 1888 at Kīlauea (5); Kīholo (4); Keauhou, Kona District (1); Kona District (1); "Punalala" (?), Waimea (1); and unspecified localities (3). In 1892, R. C. L. Perkins took one specimen at 4000 feet elevation at Pulehū Ranch. H. W. Henshaw collected 40 'Apapane from 1898 to 1901 in 'Ōla'a (30); 'Kuaia" (near Laupāhoehoe) (2); Volcano (6); "Pulehū," Kona (1); and Pāhala (1). B. Arnold took two specimens in 1898 at 'Ōla'a. A. H. Wolcott and A. Seale secured three specimens at Kīlauea in 1901. L. H. Miller collected five 'Apapane at Pa'auilo in 1903. C. E. Blacow took seven in various localities in 1902 and 1903, one at Pa'auilo and six at Horner's Ranch ('Umikoa), Hāmākua District (one at 8000 feet and two at 4000 feet elevation). C. M. Walton collected three 'Apapane, probably around 1900, near Pāhala. Gifford and H. S. Whiteley collected one specimen each at Kīlauea in 1921 and 1931, respectively. P. H. Baldwin, sometimes collecting with D. Abbott, obtained five 'Apapane in July and August 1938 at Kīlauea.

In 1948, Baldwin collected 102 specimens on the island of Hawai'i, mostly in the fall and winter months of 1948 and 1949, for food habits studies. Birds were taken at Kīlauea (38); Keauhou, Ka'ū District, 4100 to 7400 feet elevation (37); Kekekaniho, Ka'ū District, 5000 to 5100 feet elevation (5) and 5500 feet elevation (2); Pu'u'Ō'Ō Trail, Waiakea, 5700 to 5924 feet elevation (4); 0.25 to 1.0 mile north of Hawaii Volcanoes National Park boundary, Keauhou, 7250 to 7500 feet elevation (3); Halepōhaku, Humu'ula, 9100 feet elevation (3); Pōhakuloa, Ka'ohe, 8300 feet elevation (2); and east flank of Mauna Loa, 7400 to 7500 feet elevation (2). Single specimens were collected at Pu'u Ha'iawahine, Ka'ohe, 8800 feet elevation; Kahauale'a, Puna District, 2800 feet elevation; Pu'u'Ō'Ō Trail, Humu'ula, 5924 feet elevation; Humu'ula, 4500 feet elevation; 2 miles west-southwest of Solomon's Waterhole, Keauhou, Ka'ū District, 6700 feet elevation; and Hi'iaka Crater, 3250 feet elevation in the Park.

P. Brodkorb collected an 'Apapane at Pōhakuloa in 1964 and F. C. Sibley one somewhere on Mauna Loa in 1975.

On O'ahu, Wilson collected two 'Apapane in 1888, one from Helemano. In 1893, H. C. Palmer secured 11 specimens on O'ahu, six in the Wai'anae Range; four at "Wailua" (Waialua); and one at "Koolauloa" (Ko'olau Loa). Perkins took one 'Apapane on O'ahu in 1893 at Kawailoa. W. A. Bryan and A. Seale collected one specimen apiece in the Wai'anae Range in 1901. L. H. Miller took four in Kalihi Valley in 1902. C. E. Blacow collected four specimens in 1903, three on the Leilehua Ranch, Wai'anae Range (one at 3500 feet elevation), and one on a ridge east of Kalihi Valley at 2500 feet elevation.

On Maui, Wilson took one 'Apapane at an unspecified location in July 1888. Palmer collected a specimen on Haleakalā on 17 April 1892. Perkins took two examples in 'Iao Valley at an unknown date, and Henshaw secured two birds at Ukulele, Maui, in 1901.

On Kaua'i, Wilson secured an 'Apapane at an unspecified locality at 4000 feet elevation in August 1888. J. A. Kusché took four specimens in April 1920, all at an unnamed locality at 4500 feet elevation.

On Moloka'i, Perkins obtained one 'Apapane in May 1892 at an unspecified place, and M. J. Flood shot another "in brush in high mountains" in 1895.

On Lāna'i, two specimens were collected by Perkins in December 1893.

Five hundred ninety-three specimens of the 'Apapane were found to be distributed in museum collections as follows: AMNH (54); ANSP (23); BPBM (160, incl. 7 alcoholics and 5 skels.);

BMNH (28, incl. 17 in spirits); CAS (8); CMZ (18, incl. 1 pickled); CM (5); CU (2); FMNH (1); HVNP (6); LACM (3); MCZ (90); MNHN (3); NMNH (49); NM (3); SM (3); SMFT (8); UCB (112); UCLA (10); UMAA (3); UM (1); YPM (3).

Principal repositories having unabridged label information were found to be: AMNH (27); ANSP (23); BPBM (127); BMNH (21); CM (4); MCZ (90); NMNH (49); SMFT (8).

Palmeria dolei

Vernacular Name: Crested Honeycreeper
Hawaiian Name: 'Akohekohe

Specimens In Museums: 84
Specimen Labels Abstracted: 84

Wilson (Wilson and Evans 1894) collected his first and apparently only 'Akohekohe on 8 July 1888 in Kula, Maui, describing this species in 1891 (Amadon 1950).

H. C. Palmer secured 20 specimens on Maui in August, September, and October 1892. Three of the 20 examples were taken at Olinda--the only designated place.

R. C. L. Perkins obtained three 'Akohekohe on Maui at undesigned places in March 1894. In addition, two examples were secured at 5000 feet elevation in unspecified months during 1893; one was taken on 2 February in an undesignated year; and one specimen was undated. The latter two birds were likely collected by someone other than Perkins. Perkins did not name localities in which any of his 'Akohekohe were taken but elevations mentioned include 5000 feet (2); ca. 5000 feet (3); and 4000 to 5000 feet (9).

H. W. Henshaw took 10 examples from 6 to 21 June 1893 at Ukulele on Maui, and L. P. Richards secured two specimens on 5 December 1950, 0.5 mile northwest of Pu'u'alaea, 6700 feet elevation, on Haleakalā.

On Moloka'i, Palmer secured 12 'Akohekohe during February 1893, all in unspecified places. Perkins took 26 birds on Moloka'i during April to November 1893.

In addition to the above, there are three specimens taken on undesignated islands by Palmer, as well as another by him which was on loan and unavailable for examination. Two additional skins do not have any information on the labels except the date "ii.02" (Feb. 1902) found on one.

Eighty-four specimens of the 'Akohekohe were found to be distributed in museum collections as follows: AMNH (24, incl. type); ANSP (1); BPBM (12, incl. 1 mtd.); BMNH (14, incl. 1 in spirits); CMZ (8, incl. type); CM (1); MCZ (5); ISZZ (3); MNHN (2); NMNH (1); RMNH (2); ROM (5, incl. 3 co-types); SM (2); SMFT (1); UCB (2); YPM (1).

Ciridops anna

Vernacular Name: 'Ula-'ai-hāwane
 Hawaiian Name: 'Ula-'ai-hāwane

Specimens In Museums: 5
 Specimen Labels Abstracted: 5

The 'Ula-'ai-hāwane was described by Dole (1879), apparently from one of two skins obtained between 1851 and 1887 by J. D. Mills of Hilo, Hawai'i. Native Hawaiians collected another specimen for H. C. Palmer on 20 February 1892 near the head of 'Āwini Gulch, North Kohala District. Two other specimens are preserved, both labeled only "Sandwich Isles."

Five specimens of 'Ula-'ai-hāwane were found to be distributed in museum collections as follows: AMNH (2, incl. co-type); BPBM (co-type mtd.); BMNH (1); MCZ (1).

Vestiaria coccinea

Vernacular Name: 'I'iwi
 Hawaiian Name: 'I'iwi

Specimens In Museums: 505
 Specimen Labels Abstracted: 276

Four specimens collected in 1778 or 1779 during the voyage of Captain James Cook provided the basis for the original description of the 'I'iwi by G. Forster in 1780 (Wilson and Evans 1890). The species was subsequently taken by most of the early naturalists and exploratory ornithologists of the 1800's.

On Kaua'i, Wilson collected one 'I'iwi at an unspecified location in September 1888. H. C. Palmer took a bird at an undesignated location on 22 January 1891; one in April 1893 at Halemanu; and another in June 1893 at Kahōluamanu. F. Gay collected two on 26 December 1892 at Makaweli. Perkins collected a specimen somewhere on Kaua'i at 4000 feet elevation in May 1894. Munro took six 'I'iwi but localities and dates were not recorded. W. A. Bryan and A. Seale collected 18 specimens in April 1900 at Kahōluamanu (9); Halemanu (2); and undisclosed locations (7). J. A. Kusché took six on Kaua'i in April 1920, five at unspecified localities at 4300 feet and 4500 feet elevation, and one near "Kiaku Cave."

On O'ahu, F. Deppe secured one 'I'iwi in January 1837 and another on an unspecified date. H. C. Palmer collected four examples during March, April, and May 1893, three in Waialua and one in the Wai'anae Range. A. Seale took eight specimens in January and February 1901, six from the Wai'anae Range. In 1903, L. H. Miller and C. E. Blacow collected four 'I'iwi in April and May from the Wai'anae Range, two being taken at Leilehua Ranch, 3700 feet elevation.

On Moloka'i, Perkins collected one 'I'iwi in September 1893 and one in February 1902 in unspecified localities. W. A. Bryan took seven specimens in April, May, and June 1907 at Kilohana (3); "Punalu" (Punalau) (2); one at Brown's Ranch (Pu'u o Hoku) (1); and at "Waihana" (Waihānau) (1). G. C. Munro collected two birds at unspecified locations on Moloka'i on 29 October and 13 November 1906.

On Maui, S. B. Wilson collected one 'I'iwi at an unspecified location in July 1888. R. C. L. Perkins obtained two examples, one in 1894 at 5000 feet elevation on Haleakalā, the other at an undesignated location and date. H. W. Henshaw took six specimens on Maui in June 1901, three at Ukulele and three at Olinda. An unspecified collector took two 'I'iwi near Olinda in February 1928.

On Hawai'i, members of the Challenger Expedition collected three 'I'iwi within eight miles of Hilo in August 1875. In 1887 and 1888, mostly in May and June, Wilson collected 37 'I'iwi from Kona District (10); Pu'uwa'awa'a (5); Waimea (3); 'Ōla'a (3); Kīlauea (3); "Kaualoa" (Kaualea ?) (1); "Punalala," Waimea (1); and an unspecified locality (11).

H. W. Henshaw collected 70 'I'iwi mostly in windward Hawai'i during fall and winter months from 1897 to 1902. Specimens were taken from 'Ōla'a (37); 'Ōla'a, 2400 feet elevation (1); Kaiwiki (13); 'Ōhaikea (houses), Ka'ū District (4); Kaumana (4); "Kuaia" (near Laupāhoehoe) (3); Volcano (3); Pāhala (3); Kapāpala, Ka'ū District (1); Pu'u Lehua (Pulehua Ranch), Kona District (1).

A number of other collectors secured 'I'iwi on Hawai'i around 1900. A. Koebele collected three in Kona District in 1894; C. M. and M. L. Walton took six at undesignated times and places (probably near Pāhala and Nā'ālehu). B. Arnold obtained two in 1898, one at Kea'au and one at 'Ōla'a. Hitchcock secured one in 'Ōla'a in 1900. A. M. Walcott collected eight 'I'iwi in 1901, six at Kīlauea, one at Kaiwiki, and one at an undisclosed location. A. Seale took five in 1901 at Kīlauea. L. H. Miller collected a single specimen at Pa'auilo in 1902. In 1903, C. E. Blacow obtained one at Pa'auilo, and nine at Horner's Ranch ('Umikoa), Hāmākua District (three at 4000 feet, two at 7600 feet, and four at 8000 feet elevation).

P. H. Baldwin collected 45 'I'iwi on Hawai'i for food habits studies during summer and winter months in 1948 and 1949. Specimens were taken in Keauhou, Ka'ū District, 4100 to 7300 feet elevation (22); Kekekaniho, Keauhou, Ka'ū District, 5000 to 7000 feet elevation (11); Keauhou Ranch, Ka'ū District, 5500 feet and 6800 feet elevation (4); Kīlauea, 4025 feet elevation (1); Pu'u'Ō'Ō-Volcano Trail, Waiakea, 5773 to 5900 feet elevation (3); Pu'u'Ō'Ō-Volcano Trail, Humu'ula, North Hilo District, 5924 feet elevation (2); Humu'ula, North Hilo District, 4500 feet elevation (1); and Kahaualea, Puna District, 2800 feet elevation (1). In 1938, Baldwin and D. Abbott collected one 'I'iwi at 5500 feet elevation in Hawaii Volcanoes National Park.

L. P. Richards took one bird in 1950 west of Pu'u Lā'au, Upper 'Ōla'a Forest Reserve, 7350 feet elevation. P. Brodkorb took one specimen on 30 April 1964 at Kūlani. One specimen was obtained by an unknown collector on 22 August 1974 at Kīpuka-kulalio in Hawaii Volcanoes National Park.

Five hundred five specimens of the 'I'iwi were found to be distributed in museum collections as follows: AMNH (90, incl. 1 skel.); ANSP (22); BPBM (126); BMNH (48, incl. 4 in spirits); CAS (9); CMZ (26, incl. 2 pickled); CM (3); CU (2); FMNH (1); HVNP (1); LSUM (1); LACM (6); MCZ (24); MNHN (10); NM (3); NMNH (60); SM (2); SMFT (8); UCB (57); UCLA (4); UMAA (2).

Principal repositories having unabstracted label information were found to be: AMNH (67); ANSP (22); BMNH (35); MCZ (24); MNHN (10); NMNH (60).

Drepanis funerea

Vernacular Name: Black Mamo
Hawaiian Name: 'Ō'ō-nuku-umu

Specimens In Museums: 10
Specimen Labels Abstracted: 10

Newton (1893) described this species from examples provided him by R. C. L. Perkins. Perkins collected a total of six 'Ō'ō-nuku-umu on Moloka'i as follows: one on 18 June 1893 at 5000 feet elevation; two on 13 September 1893 at an unspecified locality; one in June 1896 in "Molokai Mts.," at 4000 feet and another at 4000+ feet elevation; and one on an unrecorded date at 5000 feet elevation. Neither S. B. Wilson nor H. C. Palmer, who preceded Perkins on Moloka'i obtained examples of this endemic Moloka'i species.

W. A. Bryan took a total of three 'Ō'ō-nuku-umu, one at the "headwaters of Honoaleuwai, Moanui" (Honouli Wai ? Stream, Moanui) on 4 June 1907; one at the "head of Moanui Valley" on 7 June 1907; and one at "Moanouii" (?Moanui) in June 1907.

There is apparently no information on the origin or collection date of one additional specimen.

Ten specimens of 'Ō'ō-nuku-umu were found to be distributed in museum collections as follows: AMNH (2); BPBM (4); BMNH (3, incl. co-type); MCZ (1).

Drepanis pacifica

Vernacular Name: Mamo

Hawaiian Name: Mamo

Specimens In Museums: 11

Specimen Labels Abstracted: 11

Three Mamo were collected on Hawai'i during Captain James Cook's visit in 1778 or 1779 (Wilson and Evans 1891; Stresemann 1950). The origin of another specimen obtained prior to 1820 is unspecified.

J. D. Mills (apparently corrupted to "Millsleg" on one specimen label) obtained five Mamo, four bearing labels without localities and three without dates. One skin is dated "circa 1859" while another was collected at "Olaa, Puna District, circa 1859." Mills was resident in Hilo during the period 1851 to 1887 (Manning 1978) when all of his specimens were undoubtedly secured.

T. Ballieu took two Mamo, probably in 1876 on or near Pu'u Lehua (Pulehua Ranch), Kona District.

Ahulau, an old Hawaiian bird catcher, caught the last Mamo seen alive on 16 April 1892 some distance above Hilo, presenting the living bird to his employer, H. C. Palmer (Rothschild 1900).

Eleven specimens of Mamo were found to be distributed in museum collections as follows: AMNH (2); BPBM (2 mtd.); BMNH (1); CMZ (1); MCZ (1 co-type); MNHN (2); NM (1); RMNH (1).

ACKNOWLEDGMENTS

The invaluable storehouse of information contained on the labels of most of the more than 7000 specimens of endemic Hawaiian birds in museum collections could not have been extracted without the whole-hearted cooperation of several dozen key people. Transcription of collection details, particularly Hawaiian place-names which are often almost illegible, is tedious and time consuming. Students of Hawaiian ornithology are greatly indebted to them for their patient work. I thank the following curators and their associates for their extraordinary expenditure of effort often in addition to other pressing demands in making the needed information freely available: D. Amadon, A. Flagg--American Museum of Natural History, New York; J. Bond--Academy of Natural Sciences, Philadelphia; E. H. Bryan, Jr., A. C. Ziegler--Bernice Pauahi Bishop Museum, Honolulu; I. C. J. Galbraith, P. R. Colston--British Museum (Natural History), London; R. T. Orr--California Academy of Sciences, San Francisco; K. S. Joysey, C. W. Benson--Cambridge University Museum of Zoology, Cambridge; K. C. Parkes--Carnegie Museum, Pittsburgh; A. R. Weisbrod--Cornell University, Ithaca; A. M. Bailey--Denver Museum of Natural History, Denver; E. R. Blake--Field Museum of Natural History, Chicago; R. A. Paynter, Jr.--Harvard University Museum of Comparative Zoology, Cambridge; G. Mauersberger--Institute for Special Zoological Research, Berlin; G. H. Lowery, Jr.--Louisiana State University, Baton Rouge; K. E. Stager--Los Angeles County Museum of Natural History, Los Angeles; C. Voisin--Museum National D'Histoire Naturelle, Paris; K. Handtke--Museum der Stadt Halberstadt, Halberstadt; J. R. Jehl, Jr.--Natural History Museum, San Diego; G. Rokitsansky--Naturhistorisches Museum, Vienna; G. F. Mees--Rijksmuseum van Natuurlijke Histoire, Leiden; R. C. Banks--National Museum of Natural History, Washington, D. C.; J. C. Barlow--Royal Ontario Museum, Toronto; J. Steinbacher, D. S. Peters--Senckenberg Museum, Frankfurt; S. Eck--Staatliches Museum für Tierkunde Dresden, Dresden; N. K. Johnson--University of California, Berkeley; T. R. Howell--University of California, Los Angeles; R. F. Johnston--University of Kansas, Lawrence; R. W. Storer--University of Michigan, Ann Arbor; D. W. Warner--University of Minnesota, Minneapolis; F. Richardson--Washington State Museum at University of Washington, Seattle; E. H. Stickney--Yale Peabody Museum of Natural History, New Haven; G. Niethammer--Zoologisches Forschungsinstitut u. Museum A. Koenig, Bonn.

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APPENDIX I

Place names of principal localities on tags of bird specimens taken by collectors, 1877-1904 (Hawaiian names after Place Names of Hawaii [Pukui, Elbert, and Mookini 1974] with elevations for places over 100 ft. mean sea level). Their locations are shown in Figures 1 to 5.

1. KAUA'I

Alaka'i. Swamp and trail. Waimea District.
 Halemanu. (Camp) (3650). Makaha Point quad.
 Hanapēpē. Town and valley. Waimea District.
 Kahōluamanu. (Camp) (3650). Waimea Canyon quad.
 Kekaha. Town. Kekaha quad.
 Kō'ula. Stream and ditch (500). Waimea and Koloa districts.
 Līhu'e. City and district.
 Makaweli. Village (250). Hanapepe quad.
 Pu'uka Pele. Peak (3662). Makaha Point quad.
 Waimea. Town, canyon, and district.

2. O'AHU

'Aiea. Village. Kaneohe quad.
 Diamond Head. (Crater). Honolulu quad.
 Hale'au'au. (Gulch) (500-1500). Haleiwa quad.
 Helemano. (Gulch) (50-1200). Hauula quad.
 Honolulu. City. Honolulu quad.
 Kalihi. Stream and valley (200-1000). Honolulu quad.
 Kawailoa. (Gulch) (300-1000). Haleiwa quad.
 Kawai Nui. Swamp. Mokapu quad.
 Leilehua. Village and plains (900). Wahiawa District.
 Nu'uanu. Valley (500-1200). Honolulu quad.
 Pearl Harbor. Ewa District.
 Pūpūkea. Village and trail (550). Northern Ko'olau Range.
 Waialua. Town and district. Haleiwa quad.
 Waipi'o. Village. Waipahu quad.

3. MOLOKA'I

Brown's Ranch. (Pu'u o Hoku) (600). Halawa quad.
 Hālawā. Land section and peak. Halawa quad.
 Hanalilolilo. Hill (4075) and trail. Kamalo quad.
 Kala'e. Village (1500) and land area. Kaunakakai quad.
 Kaunakakai. Town and quad.
 Moanui. Land division and stream. Halawa quad.
 Oloku'i. Peak (4600). Kamalo quad.
 Pālā'au. Land divisions (1700). Kaunakakai quad.
 Pelekunu. Valley and stream. Kamalo quad.
 Pu'uāli'i. Peak (4222). Kamalo quad.
 Wailau. Valley and trail. Kamalo quad.

4. LĀNA'I

Ha'alelepa'akai. Mountain.
 Lāna'ihale. Peak (3370).
 Ka'a. (Gulch).
 Kaiholena. (Gulch) (1750-2500).
 Waiakeakua. Mountain (3065).
 Waiapa'a. (Gulch) (1400-2500).

5. MAUI

'Iao. Valley (500-5000). Wailuku quad.
 Kā'anapali. Village. Lahaina quad.
 Kahului. Town. Wailuku quad.
 Lahaina. Town and quad.
 Makawao. Village (1700). Haiku quad.
 Olinda. Village (3800). Kilohana quad.
 Olowalu. Village and canyon. Olowalu quad.
 Ukulele. (Camp, above Olinda) (5500). Kilohana quad.
 Waiehu. Village and stream. Wailuku quad.
 Waihe'e. Canyon and stream (100-5000). Wailuku quad.

6. HAWAI'I

Hāmākua

Honoka'a. Town (1100). Honokaa quad.
 Mānā. (former Hdqs., Parker Ranch) (3500). Makalahau quad.
 Mauna Kea. Mountain (13,796). Mauna Kea quad.
 Pa'auilo. Village (700). Kukaiau quad.
 'Umikoa. Village (Horner's Ranch) (3500). Umikoa quad.

Hawaii Volcanoes National Park

Kīlauea. (Crater) (4000) and quad.
 Mauna Loa. Mountain (13,333) and quad.
 Volcano House. (Hotel) Kilauea (Crater).

Hilo

'Amauulu. Hilo residential area (1500). Hilo quad.
 Hilo. Town and quad.
 Honomū. Village (300). Papaikou quad.
 Kaiwiki. Land sections (1400). Akaka Falls quad.
 Kaumana. Hilo residential area (1100). Hilo quad.
 Keaukaha. Hilo residential area. Hilo quad.

North Hilo

Laupāhoehoe. Village (200). Keanakolu quad.

Ka'ū

'Ainapō. Upland section, mountain house (3700). Wood Valley quad.
 Brown's Ranch. (Keauhou Ranch). Kilauea Crater quad.
 Kapāpala (Ranch). Land section (2000). Wood Valley quad.
 Ka'ū Halfway House. (Dolloway's) (2900). Wood Valley quad.
 Keaunou (Ranch). Land section (4000+). Kilauea Crater quad.
 Nā'ālehu. Village (700). Naalehu quad.
 'Ōhaieka. (Houses) (3850). Kilauea Crater quad.
 Pāhala. Village (900) and quad.

North Kohala

'Āwini. Stream (headwaters) (4200). Kamuela quad.

South Kohala

Waimea. Village (2700). Kamuela quad.

North Kona

Hualālai. Mountain (8275) and quad.
 Kealakekua. Town (1600). Kealakekua quad.
 Keauhou 2. Land division (4000+). Puu Lehua quad.
 Kīholo. Bay. Kiholo quad.
 Nāhuina. (Site) (4000). Puu Lehua quad.
 Pu'u Lehua. Small cone on Hualalai (Pulehua Ranch). Hualalai quad.
 Pu'uanahulu. Hill and land section (2200). Puu Anahulu quad.
 Pu'uwa'awa'a. Large cone (3967) and land divisions. Puu Anahulu quad.

South Kona

Honomalino. Land division (1800). Papa quad.
 Ka'awa'loa. Village (Captain Cook) (1400). Honaunau quad.
 Ka'one (Ranch). Land sections (Johnston's dairy?) (5300). Puu Pohakuloa quad.
 Kealakekua. Bay. Honaunau quad.
 Nāpō'opo'o. Village. Honaunau quad.

Puna

Kea'au. Village (400) and land sections. Hilo quad.
 'Ōla'a. Land divisions. Puu Makaala quad.
 'Ōla'a. Village (Mtn. View) (1500). Mtn. View quad.
 'Ōla'a Tract. (HVNP). Kulani, Puu Makaala, Volcano, Kilauea Crater quads.
 Volcano. Village (3750). Volcano quad.

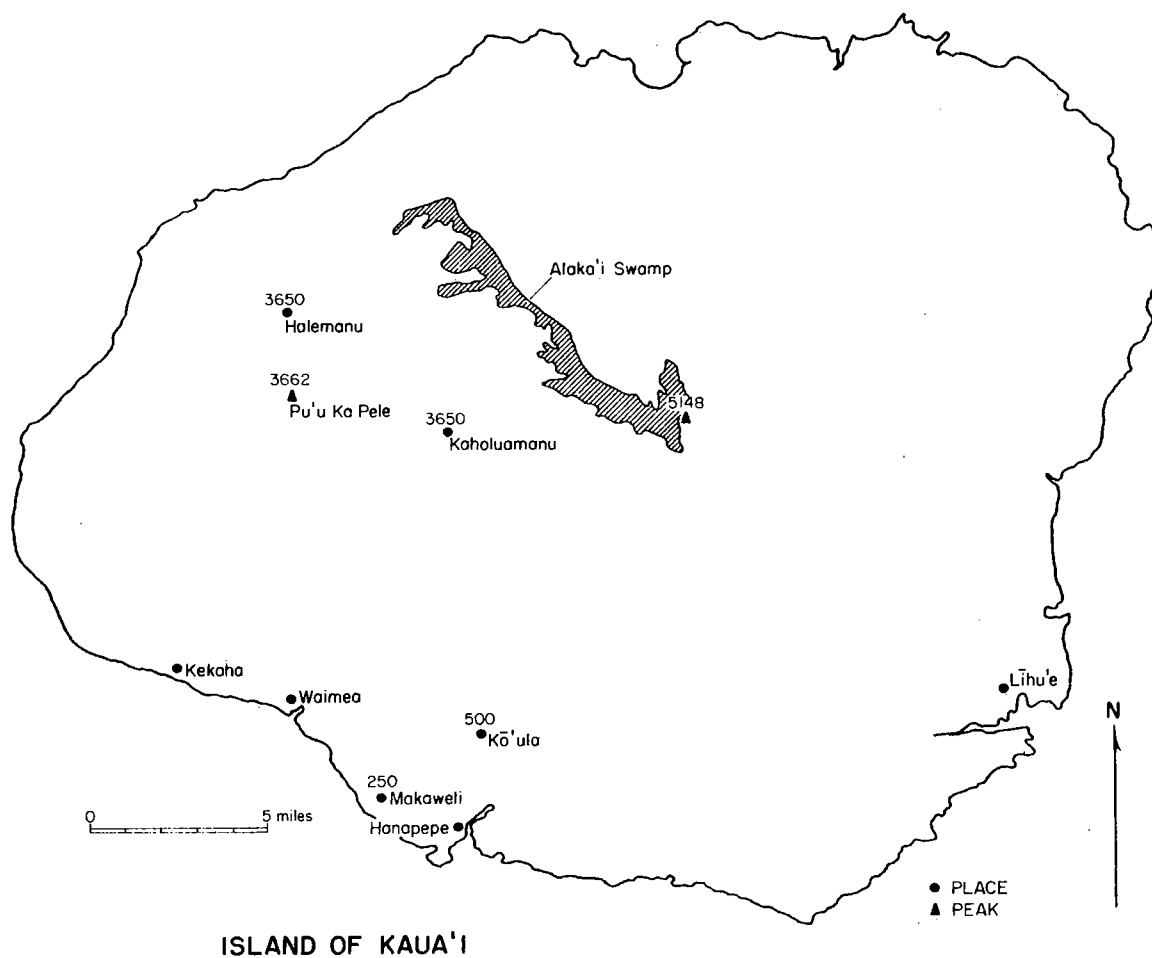


FIGURE 1. Principal specimen collecting localities and elevations on the Island of Kaua'i.

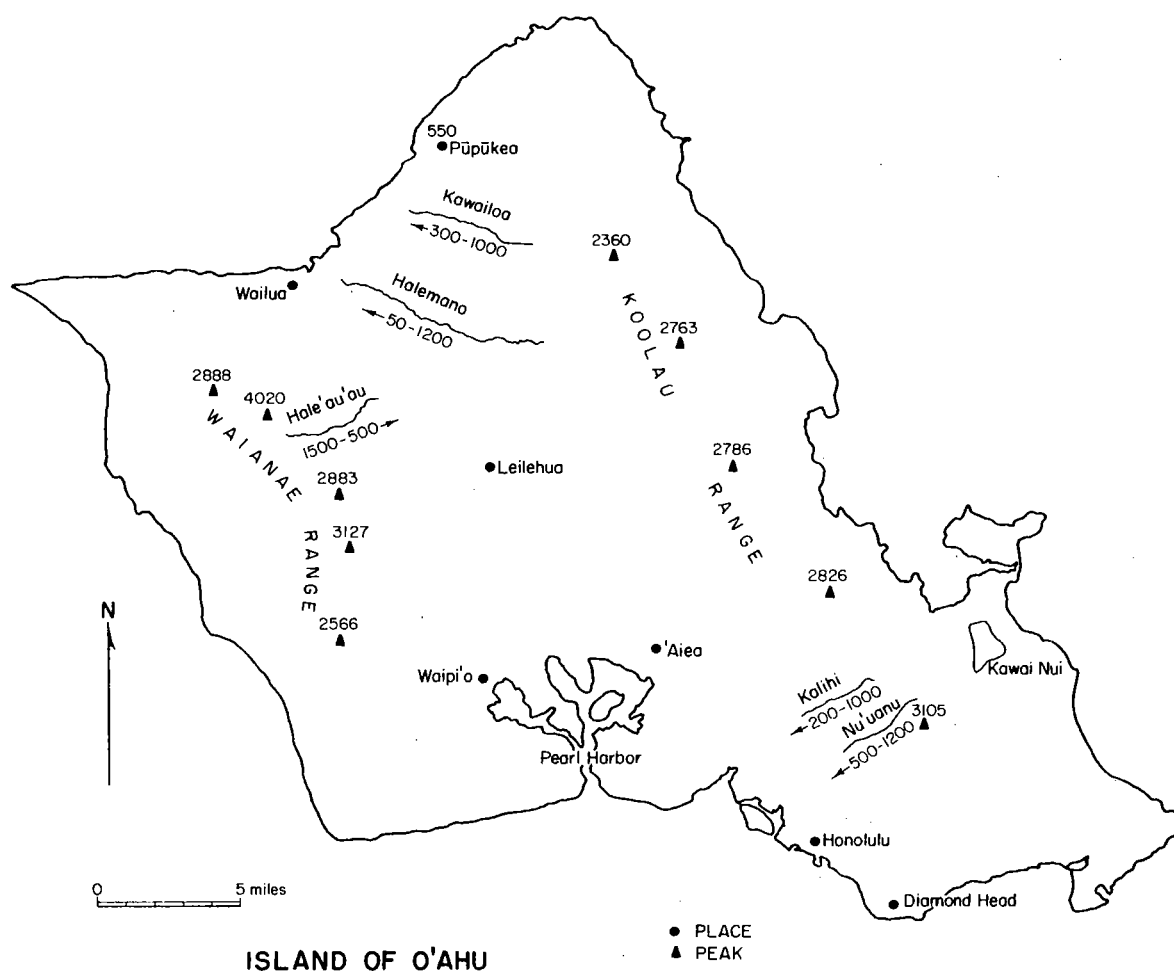


FIGURE 2. Principal specimen collecting localities and elevations on the Island of O'ahu.

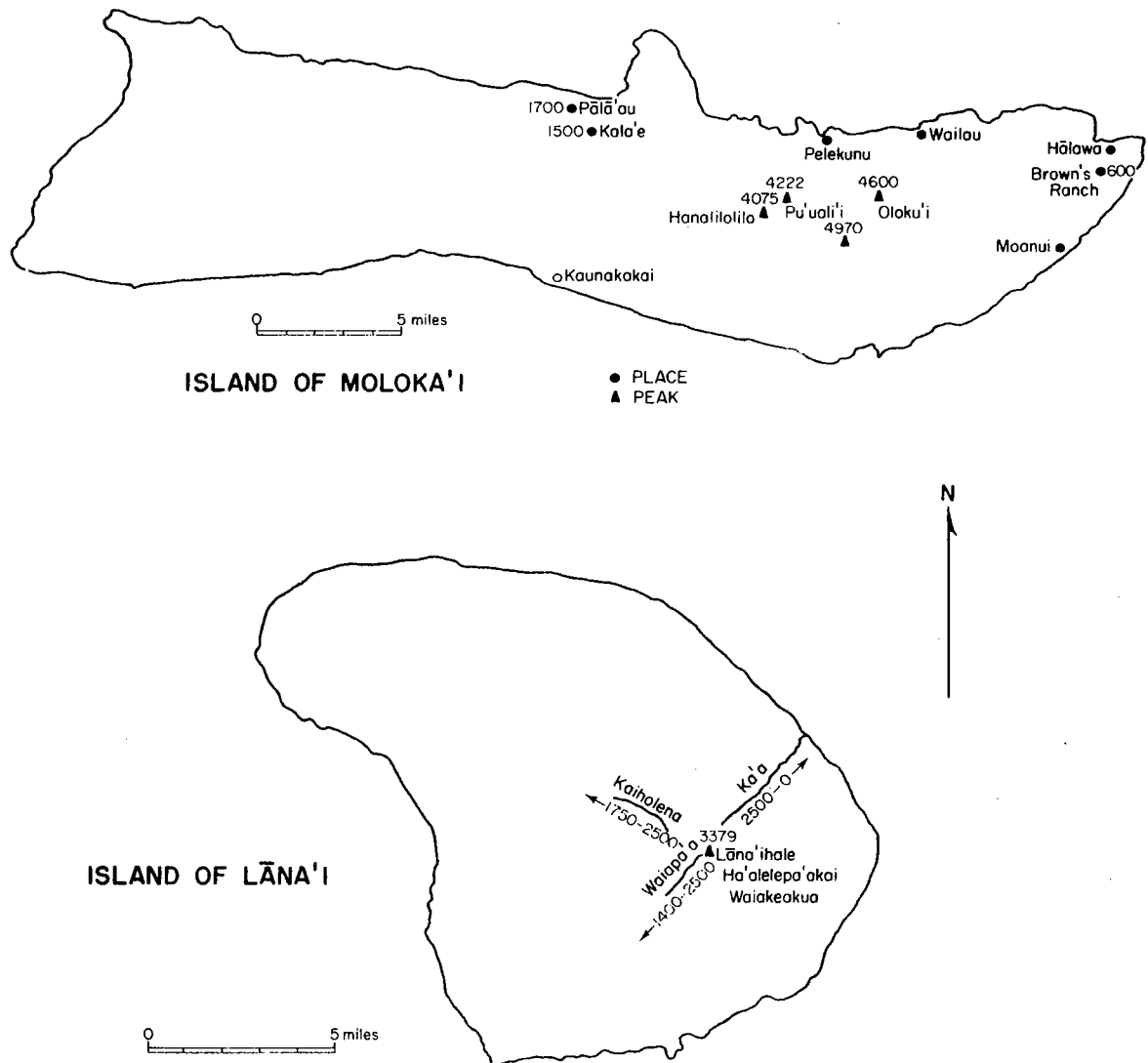


FIGURE 3. Principal specimen collecting localities and elevations on the islands of Moloka'i and Lāna'i.

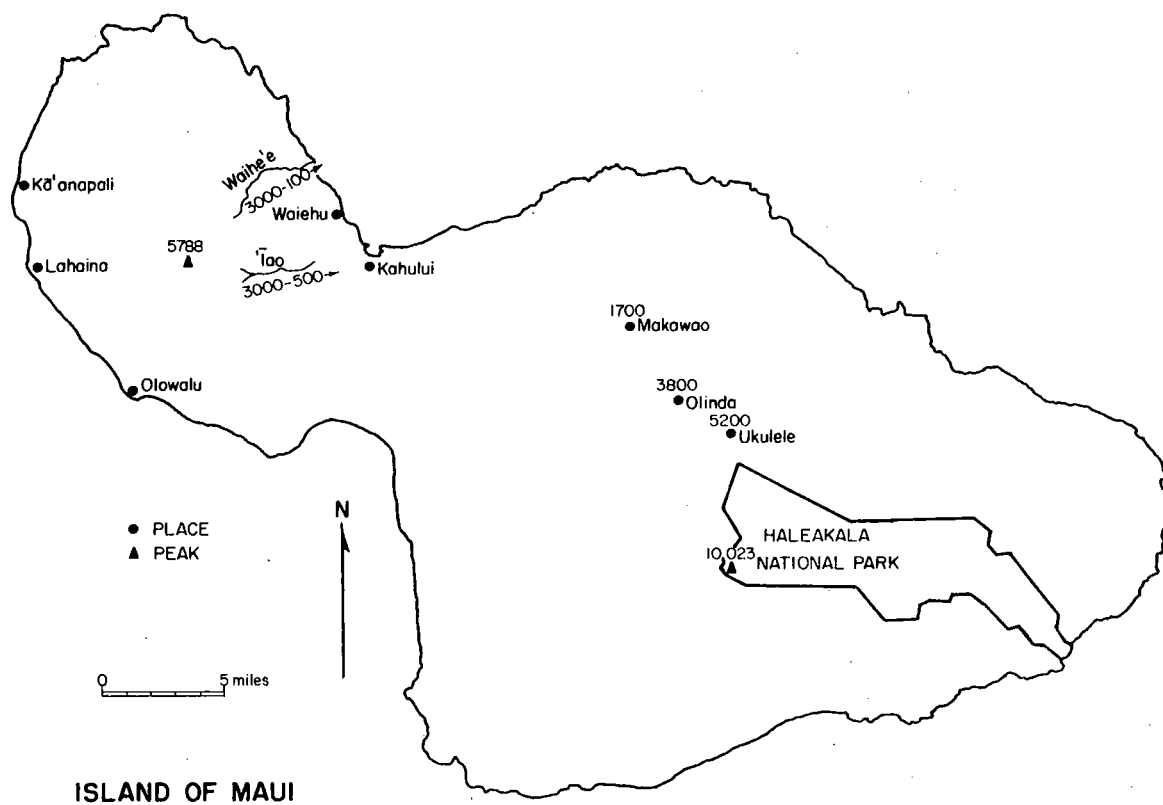
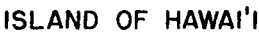


FIGURE 4. Principal specimen collecting localities and elevations on the Island of Maui.



1. 2. 3.

APPENDIX II

Full names of all bird collectors known to the author.

Donald Abbott, Ahulau, D. Anderson, Brigham Arnold;

Alfred M. Bailey, Paul H. Baldwin, Theodore Ballieu, Winston E. Banko, Paul Bartsch, Prof. Behn, Bernstein, Chester E. Blacow, Andrew Bloxam, Paul Bomke, John Bowles, Paul Breese, W. T. Brigham, Pierce Brodkorb, William A. Bryan;

Tonnie L. C. Casey, Edward L. Caum, B. D. Chilson, Prof. Collett;

E. Damon, Otto Degener, Ferdinand Deppe, Homer R. Dill;

Otto Finsch, Walter K. Fisher, O. D. Flood, M. J. Flood, R. W. Fraser;

F. E. Garlough, Francis Gay, Gifford;

Hawelu, Henry W. Henshaw, Hitchcock, Lawrence N. Huber;

James D. Jacobi, A. F. Judd, C. J. Judd;

Valdemar Knudsen, Albert Koebele, D. B. Kuhuo, J. A. Kusche;

Samuel H. Lamb, A. Starker Leopold;

H. Mann, Alfred Marche, R. C. McGregor, F. McGuire, J. McGuire, Joseph S. Medeiros, Loye H. Miller, James D. Mills, George C. Munro, W. H. Munter, R. Myer Family;

Henry C. Palmer, James Parker, William Paty, Titian R. Peale, Robert Cyril Layton Perkins;

Lawrence P. Richards, Frank Richardson, A. Robinson;

H. H. Schauinsland, Max Schlemmer, J. D. Seabury, Alvin Seale, Frederick C. Sibley, H. J. Spencer, Gerald E. Swedberg, J. O. Snyder;

J. E. Thayer, Jack Throp, C. H. Townsend, J. K. Townsend;

George Vanderbilt, "Erh. von Chile";

A. M. Walcott, C. M. Walton, M. L. Walton, Emil Weiske, Alexander Wetmore, H. S. Whiteley, H. M. Whitney, G. B. (? Gerritt P.) Wilder, S. Wilder, George Willett, Scott B. Wilson, Allan H. Wolcott, David H. Woodside.